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The relationship of pathological gambling to criminality behavior in a sample of Polish male offenders

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Summary

Background:

Severe problem gambling is most often related to income producing offences such as larceny and embezzlement. In addition, the high rate of relapse to gambling problems and the link between gambling debts and crime have clinical, forensic and penitentiary implications. Considering the data from the literature presented here I decided to form and empirically verify a hypothesis that incarcerated men with a diagnosis of pathological gambling are characterized by psychopathic personality disorders, alcohol problems and criminality.

Material/Methods:

The groups of participants encompassed 90 men 26–52 years of age, serving a criminal sentence. All participants had to fulfil the following clinical criteria: a) be interviewed by a psychiatrist and diagnosed with pathological gambling and/or antisocial personality disorders b) obtain a result in the PCL-R test; c) estimate the relationship between gambling problems and crime. Taking into consideration the abovementioned criteria three patient test groups were formed: Group 1, which included those for whom gambling had led to crime; Group 2, where gambling was a part of a criminal lifestyle, and Group 3, in which the mutual relationship between gambling and crime was unclear.

Results:

The participants were diagnosed as pathological gamblers (DSM-IV-TR, ICD-10) and psychopaths (PCL-R). Those tested differed with regard to the intensification of the personality disturbance tested, the co-occurrence of other disturbances, particularly psychoactive addictions, the motivations for taking up gambling, and the type of criminal activity.

Conclusions:

The hypothesis was confirmed that incarcerated men with a diagnosis of pathological gambling are characterized by psychopathic personality disorders, alcohol problems and criminality.

key words:

pathological gambling • criminality • antisocial/psychopathy • personality disorders

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BACKGROUND

Severe problem gambling often results in a number of serious negative consequences for example among the most troublesome and least understood is gambling-related crime. Williams et al. [1] review of problem gambling in forensic populations suggests that one third of criminal offenders meet the criteria for problem or pathological gambling. The rate of severe problem gambling is particularly important in a prison context because severe problem gambling may be associated with penitentiary problems (disciplinary problems, institutional security) [2,3]. In addition, the high rate of relapse to gambling problems and the link between gambling debts and crime have implications for clinical, forensic and penitentiary aspects.

It is accepted that pathological gambling also referred to as 'compulsive gambling' belongs to the group of impulse control disorders, which is a disturbance characterised by a permanent or temporary loss of control over behaviour during a game, an engrossment with gambling and the acquisition of the necessary means, irrational behaviour, a continuation with forms of behaviour associated with gambling despite the negative consequences [4]. According to the psychiatric classification Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) gambling is treated as a disturbance in the control of impulses (urges/drives) and adaptative disturbance which is interpreted as inappropriate behaviour in response to the actions of stressors in the form of psychic and social factors expressing an impaired social and professional functioning [5]. It lists 10 criteria that the clinician uses to diagnose pathological gambling, with 5 or more criteria being needed for this diagnosis. The symptoms describing gambling represent three dimensions of the analysed phenomenon: 1) damages or disruptions, 2) loss of control, and 3) dependence. DSM does not explicitly assess problem gambling and specifies no time period in which the diagnostic criteria for pathological gambling needs to occur. Pathological gambling has been classified in ICD-10 for the group of personality disturbances and disturbances in the behaviour of adults [6]. It has been classified within it to the categories of vice and drive/urge disturbances alongside pyromania, kleptomania, trichotillomania as well as other undefined disturbances. Basing oneself in turn on the diagnostic criteria proposed by ICD-10 it follows to accept that pathological gambling may be recognised only when in the course of the previous year the presence of at least three symptoms from amongst all the criteria mentioned in the classification have been confirmed. In analysing the diagnostic criteria DSM and ICD it follows to note that both classifications emphasize the consequences for the individual of pathological gambling, which leads to degradation of one's social position, to debts and crimes. From analysis of research into the connection of criminality and addiction to gambling in Australia, New Zealand, the United Kingdom and the United States conducted by R.J. Williams et al. [1] it results that the breaking of legal norms was connected with personal and financial problems deriving themselves from pathological gambling as well as the need to pay off debts. According to a review by Williams et al. [1] the prevalence rates combining moderate and severe problem gambling in the studies reviewed ranged from 11% to 73%, with the average being about 33%. The variation in these estimates is likely due to differences in the definition

of problem gambling, the measurement instruments, data collection methodology, and the security level of the prison. However, even the lowest prevalence estimates are substantially higher than those found in the general population. Severe problem gambling is most often related to income producing offences such as larceny and embezzlement [7]. By conducting a review of the literature on the subject one may note that the criminal underworld has been dominated by gamblers since well before the twentieth century and that problem gamblers are often their best customers [8]. Such criminal activities would occur late in the progression of pathological gambling as money becomes scarce [9]. Other offenders appear to have a long history of criminal behaviour that often predates their gambling problem [10]. Such offenders may suffer from antisocial personality disorders that predispose them to both problem gambling and criminality [11].

Attention is here drawn to the fact that the terminological divergences result to a large degree from the autonomy of the models within which they are described. And thus the medical model prefers a taxonomic approach, while the psychological model accentuates the psychopathology of the mechanisms for man's adjustment and psychic regulation. Regardless, however, of the model in which the psychopathy is diagnosed and analysed, it follows to realise that it constitutes without doubt a clinical construct connected with personality disturbances. The tests conducted amongst individuals who had undergone treatment as a result of addictive gaming have shown that over 70% of this group fulfilled the criteria of anti-social personality disturbances – first and foremost criteria concerned with a lack of responsibility, non-conformism and the undertaking of risky forms of behaviour. If in the given individual the criteria of both disturbances (pathological gambling and an anti-social personality) has been fulfilled, then according to DSM-IV-TR a double diagnosis is made [3]. While in the light of ICD-10, pathological gambling should be differentiated from gambling conducted by individuals with personality disturbances of the dissocial type [4]. Although pathological gambling is not connected with addictive chemical substances, it is, however, considered to be an addiction as a result of the personality traits characteristic for an addictive gambler, the difficulties they cause, and the problems connected with treatment [12–14]. Pathological gambling may be viewed as a specific type of addiction; specific – as a result of its subject, for this is not a chemical substance but a certain form of activity. That there exists addiction to games involving gambling is borne out by the fact that in pathological gambling, in a similar way to addiction, there occurs a disturbance in the control of impulses and difficult in controlling one's own behaviour. The impulse relates to the triggering off of activity – the sudden tendency to carry out an act without rational analysis [6]. The impulse to act is preceded by a feeling of tension, and after its completion the subject feels relief or pleasure, although subsequently there may appear a sense of guilt or regret. Impulsive actions allow one to explain both the occurrence as well as the maintaining of pathological gambling. This is indicated by the following facts: a) a high percentage of pathological gamblers possess at least one other impulse control disturbance; b) addictive gamblers often display antisocial behaviour and commit crimes, which illustrates the difficulties in subjecting themselves to the social norms in force; c) there

is additionally observed in pathological gamblers a heightened rate of ADHD syndrome [15].

Pathological gambling, like other addictions, encompasses behaviours subjugated to the achievement of short-lived gains, regardless of their long-term negative influence on the life of the addicted person; therefore also diagnosticians concentrate at times on the social effects of this disturbance rather than on the control disturbance. This means that we know better the consequences in the sphere of the behavioural functioning of addictive gamblers than we do the mechanisms leading to this type of disturbance. The very fact of infringing legal norms is not equivocal with bearing legal consequences. This may also point to the fact that individuals possessing better abilities to function socially will be able to avoid or mask their behaviour. Moreover, the fact as to what decides that treatment is undertaken appears an interesting one, as equally does the decision to make use of the help of a social support group. In the literature that exists on the subject it has not been possible to find research that describes control disturbance despite the fact that both psychiatric classifications unanimously emphasise the importance of this variable in the diagnosis of pathological gambling. Therefore also I would like to here refer to the hypothesis of Gorenstein and Newman [15], who supposed that psychopathy, anti-social behaviour, impulse behaviour, alcohol abuse, overuse of psychoactive substances are various manifestations of a more fundamental disturbance, called by them a generalized disinhibitory complex. Later research showed many dependencies confirming this hypothesis, including it being claimed that early alcoholism co-occurs with a greater likelihood of anti-social and disinhibitive forms of behaviour [16–19]. What is more, the defined features of behaviour: disinhibitive, uncontrolled, impulsive behaviour significantly forecasts in children early alcohol abuse [20–22]. Research in the last decade has shown that there exists a dependence between the age of one's first encounter with alcohol and numerous indicators of disinhibition [23]. Addictions are often preceded in childhood by so-called disturbances of externalisation, i.e. earlier manifested, stable in time (it does not follow to confuse these forms of behaviour with the transitory revolt of adolescence) hyperactive forms of behaviour being impulsive, aggressive [24–27]. Disturbances of externalisation evolve with age in the direction of such clinical forms as ADHD, anti-social behaviour or substance abuse. Kendler et al. [25] draw one's attention to the fact that various disturbances in this class are conditioned by the same factors of risk. In the literature on the subject there exists also an alternative hypothesis, according to which one may not explain the appearance of addiction by means of disturbances in the control of impulses. In other words, the development of addiction – for example, gambling – leads to changes in personality to such a degree that there appear differences in the traits of personality between pathological gamblers and those who do not experience problems of this sort. The present study examined gambling behaviour in a sample of incarcerated Polish male offenders. I used clinical interview as a method for the measure of severe problem gambling. In addition, the nature of the offences typically committed by severe problem gamblers was examined via a review of offenders' correctional files. Finally, the relationship between gambling problems and criminal behaviour was examined in face-to-face interviews.

The aim of study

Considering the data from the literature presented above I decide to form and empirically verify a hypothesis that incarcerated men with a diagnosis of pathological gambling are characterized by psychopathic personality disorders, alcohol problems and criminality activities.

MATERIAL AND METHODS

Study participants

Those examined constituted three numerically equal groups (each 30 strong) of adult men. The groups of participants included 90 men at the age of 26–52 convicted with a legally binding sentence, while the age range resulted first and foremost from the fact of being sentenced for a crime as well as the time period in which the activity undertaken by those tested connected with violation of legal norms lasted. And so, in Group 1 – the average patient age was 39 (SD=10, min 26; max 51), in Group 2–42 (SD=9, min.29, max 52) while in Group 3–33 years (SD=6, min. 26, max 38).

Moreover, all participants had to fulfil the following clinical criteria: a) be diagnosed with pathological gambling and/or antisocial personality disorders by a psychiatrist b) obtain a result in the PCL-R test; c) estimate the relationship between gambling problems and crime. Taking into consideration the above mentioned criteria three patient research groups were formed: 1) Group 1 which included those for whom gambling had led to crime, 2) Group 2 – where gambling was a part of a criminal lifestyle as well as 3) Group 3, in which it was unclear as to the two way relationship between gambling and crime.

Methods

With the aim of empirically verifying the formulated problems, the following research tools were used:

The Psychopathy Checklist – Revision (PCL-R) by Hare in the Polish adaptation by Pastwa-Wojciechowska. PCL-R [25] is commonly accepted as the most powerful instrument to detect and measure psychopathy, and there is a wide consensus that, for the moment, there is no other procedure that can be so accurate and so well-correlated with antisocial variables. PCL-R encompasses an unidimensional measure of the disorder with two correlated factors, one related to personality traits and the other portraying an antisocial lifestyle. Items are scored from 0 (the characteristic is not present) to 1 (some features are present but not the whole description) and 2 (the characteristic is fully present), through the combination of the results of a long semi-structured interview with file consultation in different institutional sources. According to Hare [25], total scores can be divided into three groups: less than 20: non-psychopaths; 20–29 mild psychopaths, and 30 or more – psychopaths.

Interviews – offenders were asked additional questions about their gambling behaviour, particularly as it related to their motivation, criminal histories, in an attempt to determine if there was a relationship between the onset of their criminal behaviour and gambling problem. The relationship

Table 1. The relationship between crime, gambling, antisocial personality disorders and psychopathy.

	Crime	DSM-IV-TR pathological gambling N (%)	DSM-IV-TR antisocial personality disorders N (%)	PCL-R <30N (%)
Gambling led to crime (Group 1)	The participant reported committing crimes as a direct consequence of gambling. In most cases the crime was committed to finance gambling or to pay gambling debts	30 (100%)	30 (100%)	30 (100%)
Gambling part of criminal lifestyle (Group 2)	The participant reported that gambling was part of his criminal life style. In some cases they were involved in illegal gambling operations as bookies, enforcers or players	11 (37%)	30 (100%)	19 (63%)
Unclear or two way relationship (Group 3)	Responses where there was a relationship between gambling and crime, but the relationship was unclear. In some cases the participant description of the relationship suggested a two-way relationship between crime and gambling	5 (17%)	2 (7%)	0 (0%)

Table 2. The relationship between PCL-R, gambling and crime.

PCL-R	Gambling led to crime (Group 1) N (%)	Gambling part of criminal lifestyle (Group 2) N (%)	Unclear or two way relationship (Group 3) N (%)
0–9	0 (0%)	0 (0%)	9 (30%)
10–19	0 (0%)	0 (0%)	21 (70%)
20–29	0 (0%)	11 (37%)	0 (0%)
30–40	30 (100%)	19 (63%)	0 (0%)

Table 3. Relationship between the structure of psychopathy, gambling and crime.

Structure PCL-R	Gambling led to crime (Group 1) M (SD)	Gambling part of criminal lifestyle (Group 2) M (SD)	Unclear or two way relationship (Group 3) M (SD)
PCL-R Factor 1	18.17 (1.32)	9.67 ((0.97)	5.19 (1.41)
PCL-R Factor 2	13.83 (1.15)	14.29 (1.64)	7.58 (1.50)
PCL-R	32.00 (1.01)	23.96 (1.67)	12.77 (1.45)

between gambling problems and criminal behaviour was examined in face-to-face interviews. A semi-structured interview format was used and the interview results were coded and analyzed statistically.

RESULTS

First of all we would like to present the results of participants in the PCL-R scale, describing the relationship between crime, gambling, antisocial personality disorders and psychopathy (Table 1). All those tested were diagnosed by psychiatrists in relation to the manifestation of diagnostic criteria of pathological gambling and antisocial personality disorders as well as the result of the PCL-R being

taken into consideration. As the results obtained show all those tested belonging to Group 1 (gambling led to crime) fulfilled the diagnostic criteria of pathological gambling (100%) and antisocial personality disorders (100%) as well as obtaining a result of 30 points and above in the PCL-R. In Group 2 (gambling part of criminal lifestyle) 37% of those tested fulfilled the criteria of pathological gambling, 100% antisocial personality disorders and 63% obtained in the PCL-R test a result equal or above 30%. In Group 3 (unclear or two way relationship) 17% of those tested were diagnosed with pathological gambling while 7% had antisocial personality disorders. None of those tested in this group obtained a result above 30 points in the PCL-R questionnaire.

Table 4. The relationship between psychiatric diagnosis, gambling and crime.

Psychiatric diagnosis	Gambling led to crime (Group 1)N (%)	Gambling part of criminal lifestyle (Group 2)N (%)	Unclear or two way relationship (Group 3)N (%)
Pathological gambling	30 (100%)	11 (37%)	5 (17%)
APD (antisocial personality disorder)	30 (100%)	30 (100%)	9 (30%)
Alcohol addiction	8 (27%)	19 (63%)	11 (37%)
nicotine addiction	19 (63%)	24 (80%)	13 (43%)
Drug dependence	0 (0%)	0 (0%)	4 (13%)
Diagnosis of ADHD in childhood	2 (7%)	0 (0%)	5 (17%)

Table 5. The relationship between game participation, gambling and crime.

Game participation	Gambling led to crime (Group 1)N (%)	Gambling part of criminal lifestyle (Group 2) N (%)	Unclear or two way relationship (Group 3) N (%)
Casino card games	17 (57%)	12 (40%)	1 (3%)
Other casino table games	8 (27%)	7 (23%)	1 (3%)
Private card games	19 (63%)	21 (70%)	22 (73%)
Internet gambling	11 (37%)	25 (83%)	24 (80%)
Sports lotteries	2 (7%)	14 (47%)	17 (57%)
Lottery tickets	9 (30%)	13 (43%)	14 (47%)
Scratch cards	0 (0%)	9 (30%)	11 (37%)
Slot machines	11 (37%)	12 (40%)	9 (30%)
Games of skill	12 (40%)	11 (37%)	4 (13%)
Other games	3 (10%)	5 (17%)	2 (7%)

Subsequently an analysis was conducted into the intensification of psychopathic traits within the test groups (Table 2). And thus in Group 1 all of those tested (100%) achieved a PCL-R test result equal or above 30 points which indicates the diagnosis of psychopathy. While in Group 2 63% were diagnosed with psychopathy and 37% were confirmed as having a moderate escalation of psychopathy features. In Group 3, in 70% of those tested a low intensification of psychopathy features were noted while 30% of those tested obtained results indicating an absence of psychopathic features.

Next, I would like to present the results of participants in the PCL-R scale, describing the intensity and structure of psychopathic traits (Table 3). Factor 1 (describing the constellation of psychopathic personality traits) dominated in Group 1, while factor 2 (describing antisocial behaviour) dominated in Group 2 and 3.

Next the relationship between psychiatric diagnosis, gambling and crime (Table 4) was analysed. The analysis conducted of the medical and psychological documentation of those tested showed that in Group 1 the most often identified was the cooccurrence of pathological gambling (100%), antisocial personality disorders (100%) as well addiction to

nicotine (63%) and alcohol (27%). In Group 2 – in 100% of those tested antisocial personality disorders were diagnosed, 80% addiction to nicotine, 63% addiction to alcohol while in 37% pathological gambling. In Group 3 the most often diagnosed was addiction to nicotine (43%), alcohol (37%) as well as antisocial personality disorders (30%).

After analysis of the intensification and structure of psychopathy, the relationship between game participation, gambling and crime was subjected to analysis (Table 5). It occurs that for individuals where gambling led to crime the most dominant were forms of gambling like private card games (63%), casino card games (57%), games of skill (40%). Those from Group 2 for whom gambling is part of a criminal lifestyle made use the most often of Internet gambling (83%), private card games (70%) as well as sports lotteries (47%) while in Group 3 – similarly to Group 2 it was Internet gambling (80%), private cards (73%) and sports lotteries (57%).

In analysing the motives for gambling, the court documentation, medical documentation as well as taking into consideration the data from the interview conducted with those tested was also analysed (Table 6). It turned out that in Group 1 and 2 there dominated a desire to possess money

Table 6. Reasons for gambling in patient self evaluation.

Reasons	Gambling led to crime (Group 1)N (%)	Gambling part of criminal lifestyle (Group 2) N (%)	Unclear or two way relationship (Group 3) N (%)
Desire to possess money	17 (57%)	19 (63%)	24 (80%)
Desire to pay off debts	11 (37%)	7 (23%)	22 (73%)
Experience of pleasure (expectation of extreme emotions)	16 (53%)	13 (43%)	4 (13%)
Means of drawing attention away from everyday problems	4 (13%)	11 (37%)	18 (60%)

Table 7. The relationship between gambling and crime.

Type of crime committed	Gambling led to crime (Group 1)N (%)	Gambling part of criminal lifestyle (Group 2)N (%)	Unclear or two way relationship (Group 3) N (%)
Income producing	1 (3%)	11 (37%)	4 (13%)
Theft	7 (23%)	14 (47%)	18 (60%)
Fraud	14 (47%)	8 (27%)	1 (3%)
Forgery	9 (30%)	7 (23%)	1 (3%)
Counterfeiting	11 (37%)	4 (13%)	1 (3%)
Robbery	2 (7%)	3 (10%)	15 (50%)
Extortion	5 (17%)	8 (27%)	2 (7%)

(57%, 63%) as well as emotional expression (53%, 43%), in Group 3 – the desire to possess money (80%) as well as the desire to pay off debts.

Of importance is also analysis of the type of dependence between gambling and the type of crime committed (Table 7). It turns out that persons from Group 1, where gambling is the direct reason for undertaking criminal activity, most often commit crimes such as: fraud (47%) and counterfeiting (37%), in Group 2, where gambling is a part of a criminal lifestyle there dominate theft (47%) and income producing (37%), in Group 3 (unclear or two way relationship) there dominate theft (60%) and robbery (50%).

DISCUSSION

Analysing the reports from literature on the subject [1,25–27] one cannot notice a dependency between pathological gambling and psychopathic and antisocial personality disturbances. First and foremost it follows to pay attention to the fact that psychopathic and antisocial personality disturbances are not identical [26] something that equally finds reflection in the research undertaken. It turns out that individuals for whom there is diagnosed both pathological gambling as equally antisocial personality disturbances as well as obtaining a result in the PCL-R questionnaire equal to 30 points or above, committed offences as a result of gambling. This is particularly interesting for these individuals had not had any earlier conflict with the law while the environment as equally the materials collected proved

the appearance of a dependence between gambling addiction and problems with the law. It is here worth emphasising that the tests conducted amongst individuals who underwent treatment as a result of addictive gambling showed that over 70% of this group fulfilled the criteria of antisocial personality disturbances – first and foremost the criteria concerning lack of responsibility, non-conformism and the undertaking of risky forms of behaviour [5,6,25,26]. While describing the personality structure it is emphasised that individuals with a psychopathic personality display an absence of a sense of moral principles as well as not upholding social norms that are identified very often with coming into conflict with the law. In other words, it is easier for these individuals to commit as well as equally undertaking actions in accordance with their expectations or needs with an omitting of the norms in force. This has equally found reflection in the motivation to take up gambling. And thus, in psychopathic individuals (Group 1) and the antisocial (Group 2) there dominates the motive to possess money as well as the experience of pleasure. It also follows to remember that psychopathic individuals are convinced that rivalry is a regulation of interpersonal relations. Therefore gambling is also treated as a form of rivalry, in addition rivalry based on the result obtained, which is to strengthen the 'I' of these individuals. The next question to which attention is drawn is the question of the cooccurrence of diagnoses – if in a given individual the criteria of both disturbances (of pathological gambling and an anti-social personality) then according to DSM-IV-TR a double diagnosis is made [5]. Yet in the light of ICD-10 pathological gambling should be differentiated

from gambling carried out by individuals with personality disturbances of a dissociative type [6]. It follows to note that the medical classification in force in Poland is ICD-10, that said however, particularly in relation to dissociative personality (antisocial, psychopathic), we find a large number of determinations. In the research conducted there appeared asocial designations of personality disturbance while the diagnosing psychiatrists claimed that they were based on DSM diagnostic criteria. Therefore, besides personality disturbances they diagnosed pathological gambling. Besides the above mentioned diagnoses there also appeared diagnoses concerning nicotine and alcohol addiction. Therefore the thesis contained in the relevant literature also seems valid [1,12,13,25,26] in talking about how pathological gambling like other addictions covering behaviour are subjugated to the obtainment of short lasting benefits, regardless of their long-term negative influence on the life of the addicted person. The description presented above is characteristic of a psychopathic personality structure, for these persons display impulsiveness as well as incapability for the long-term planning of actions[25,27].

CONCLUSIONS

As a result of the conducted studies I formulated the following conclusions concerning people with gambling and antisocial personality disorders:

Pathological gambling results in a host of consequences in social functioning, particularly social degradation, debts, crime.

The crimes committed by persons who gamble result from the personal and financial problems of those tested.

There was observed a cooccurrence of pathological gambling, antisocial personality disturbances and addiction to psychoactive substances.

The type of crimes committed is connected with the choice of activity by the perpetrator, which is in their evaluation the most effective in the paying off of debts.

REFERENCES:

- Williams RJ, Royston J, Hagen BF: Gambling and Problem Gambling Within Forensic Populations. A Review of the Literature. *Criminal Justice and Behavior*, 2005; 32: 665–89
- Walters GD: The effect of gambling lifestyle group intervention on subsequent disciplinary adjustment in male prison. *Addictive Disorders & Their Treatment*, 2005; 4(1): 21–28
- Williams DJ: Offender gambling in prisons and jails: Is it hidden leisure experience? *Correctional Psychologist*, 2008; 40(3): 7–10
- Carson RC, Butcher JN, Mineka S: *Psychologia zaburzeń*. GWP, Gdańsk, 2003; 608–12 [in Polish]
- Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR). APA International Statistical Classification of Diseases and Related Health Problems (ICD-10). World Health Organization
- Błaszczynski A, McConaghy N, Frankova A: Crime, antisocial personality and pathological gambling. *Journal of Gambling Behavior*, 1989; 5: 137–51
- Turner NE, Preston DL, Saunders C et al: The relationship of problem gambling to criminal behavior In a sample of canadian male federal offenders. *J Gambli Stud*, 2009; 25: 153–69
- Lesieur HR, Blume SB: The South Oaks Gambling Screen (SOGS): A New instrument for the identification of pathological gamblers. *Am J Psychiatry*, 1987; 144(9): 1184–88
- Abbott MW, McKenna BG, Giles LC: Gambling and problem gambling among recently sentenced male prisoners In four New Zeland prisons. *J Gambli Stud*, 2005; 21: 537–58
- Meyer G, Stadle MA: Criminal behavior associated with pathological gambling. *J Gambli Stud*, 1999; 15: 29–43.
- Derwick-Nowak A: *Patologiczny hazard*. Difin, Warszawa, 2010 [in Polish]
- Meyer R: *Psychopatologia. Jeden przypadek – wiele teorii*. Studia przy-padków. GWP, Gdańsk, 2003 [in Polish]
- Custer RL: An overview of compulsive gambling. In: Carowe PA, Yoliess SF, Kieffler SN, Krinsky LW (eds.): *Addictive disorders update*. Human Science, New York, 1982
- Fareght N, Leth-Steensen C: Reflections on the voluntary self-exclusion of gamblers and the law-suits against Ontario Lottery and gambling Corporation. *J Gambli Stud*, 2009; 25: 131–38
- Gorenstein EE, Newman JP: Disinhibitory psychopathology: A new perspective and a model for research. *Psychological Review*, 1980; 87: 301–15
- McGue M, Sharma A, Benson P: Parent and sibling influences on adolescent alcohol use and misuse: evidence from a U.S. adaptation cohort. *J Stud Alcohol*, 1987; 1: 8–18
- McGue M, Slutske W, Iacono WG: Personality and substance use disorders: II. alcoholism versus drug use disorders. *J Clin Psychol*, 1999; 67(3): 394–404
- Tarter RE: Are there inherited behavioral traits that predispose to substance abuse? *J Consult Clin Psychol*, 1988; 56: 189–96
- Cloninger CR, Sigvardson S, Reich T, Bohman M: Childhood personality predicts alcohol abuse in young adults. *Alcohol Clin Exp Res*, 1988; 12L: 494–505
- Farrington DP, Loeber R, Van kammen WB: Long-term criminal outcomes of hiperactivity-impulsivity-attention deficit and conduct problems in childhood. In: Robins N, Rutter MR (eds.), *Straight and devious pathways to adulthood*. New York, Cambridge University Press, 62–81
- McGue M, Iacono WG, Legrant LN, Elkins I: Origins and consequences of age at first drink. Familial risk and heritability. *Alcohol Clin Exp Res*, 2001; 8: 1166–73
- Weinberg NZ, Rahdert E, Collier JD, Glantz MD: Adolescent substance abuse: A review of the past 10 years. *J Am Acad Child and Adolesc Psychiatry*, 1998; 37: 252–61
- Kendler KS, Prescott CA, Myers J, Neale MC: The structure of genetic and environmental risk factors for common psychiatric and substance use disorders in men and women. *Archivum of General Psychiatry*, 2003; 60: 929–37
- Hare RD: *The Hare Psychopathy Checklist-Revised*. Manual. Toronto: Multi-Health Systems, 1991/2002
- Pastwa-Wojciechowska B: Psychopathy and Gender Differences. From Norm to Pathology. In: Chybicka A, Kaźmierczak M (eds.): *Appreciating diversity – gender and cultural issues*. Kraków: Oficyna Wydawnicza Impuls, 2008; 381–414
- Wanner B, Vitaro F, Carbonneau R, Tremblay R: Cross-Lagged Links Among Gambling, Substance Use, and Delinquency From Midadolescence to Young Adulthood: Additive and Moderating Effects of Common Ris Factors. *Psychol Addict Behav*, 2009; 23(1): 91–104
- Narkauskaite L, Juozulynas A, Mackiewicz Z, Utkuviene J: Prevalence of psychoactive substances use in a Lithuanian women's prison revisited after 5 years. *Med Sci Monit*, 2010; 16(11): PH91–96