



## Original article

## Comorbidity, family history and personality traits in pathological gamblers compared with healthy controls



K. Mann<sup>a,1</sup>, T. Lemenager<sup>a</sup>, E. Zois<sup>a</sup>, S. Hoffmann<sup>a</sup>, H. Nakovics<sup>a</sup>, M. Beutel<sup>b</sup>,  
M. Vogelgesang<sup>c</sup>, K. Wölfling<sup>d</sup>, F. Kiefer<sup>a</sup>, M. Fauth-Bühler<sup>a,\*</sup>

<sup>a</sup> Department of Addictive Behavior and Addiction Medicine, Central Institute of Mental Health, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

<sup>b</sup> Kraichtal-Kliniken Am Mühlberg, Kraichtal 76703, Germany

<sup>c</sup> AHG Klinik Münchwies, Neunkirchen, Germany

<sup>d</sup> Department of Psychosomatic Medicine and Psychotherapy, University Medical Centre, Johannes Gutenberg University Mainz, Mainz, Germany

## ARTICLE INFO

## Article history:

Received 10 May 2016

Received in revised form 2 December 2016

Accepted 3 December 2016

Available online 23 December 2016

## Keywords:

Pathological gambling

Comorbidity

Family history

Personality traits

Treatment-seeking pathological gamblers

## ABSTRACT

**Background:** While DSM-5 classified pathological gambling as an addictive disorder, there is debate as to whether ICD-11 should follow suit. The debate hinges on scientific evidence such as neurobiological findings, family history of psychiatric disorders, psychiatric comorbidity, and personality variables.

**Methods:** In the “Baden-Württemberg Study of Pathological Gambling”, we compared a group of 515 male pathological gamblers receiving treatment with 269 matched healthy controls. We studied differences in sociodemographic characteristics, gambling-related variables, psychiatric comorbidity (lifetime), family history of psychiatric conditions, as well as personality traits such as impulsivity (Barratt Impulsiveness Scale), sensation seeking (Zuckerman’s Sensation Seeking Scale) and the NEO-FFI big five. Personality traits were validated in an age- and ethnicity-matched subsample of “pure” gamblers without any psychiatric comorbidity (including nicotine dependence). Data were analyzed using two-sample *t*-tests, Chi<sup>2</sup> analyses, Fisher’s exact test and Pearson correlation analysis, as appropriate. Bonferroni correction was applied to correct for multiple comparisons.

**Results:** Only 1% of the gamblers had been diagnosed with an impulse control disorder other than gambling (ICD-10). Notably, 88% of the gamblers in our sample had a comorbid diagnosis of substance dependence. The highest axis I comorbidity rate was for nicotine dependence (80%), followed by alcohol dependence (28%). Early age of first gambling experience was correlated with gambling severity. Compared to first-degree relatives of controls, first-degree relatives of pathological gamblers were more likely to suffer from alcohol dependence (27.0% vs. 7.4%), pathological gambling (8.3% vs. 0.7%) and suicide attempts (2.7% vs. 0.4%). Significant group differences were observed for the NEO-FFI factors neuroticism, agreeableness and conscientiousness. Gamblers were also more impulsive than controls, but did not differ from controls in terms of sensation seeking.

**Conclusions:** Our findings support classifying pathological gambling as a behavioural addiction in the ICD-11. This decision will have a significant impact on the approaches available for prevention (e.g. age limits) and treatment.

© 2016 Elsevier Masson SAS. All rights reserved.

## 1. Introduction

Pathological gambling is a psychiatric condition with past-year prevalence rates varying between 0.12 and 5.8% across different

countries in the world [1–3]. The disorder is characterized by persistent and recurrent gambling and is associated with impaired functioning, reduced quality of life, and high rates of suicide attempts [4].

Previous epidemiological studies have reported high frequency of other comorbid disorders in pathological gamblers: Data from two large epidemiological surveys in the United States, the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) [5] and the National Comorbidity Survey Replication (NCS-R) [2] found the highest odds ratios (ORs) of DSM-IV lifetime pathological gambling and other psychiatric axis I disorders for

\* Corresponding author at: Central Institute of Mental Health, Medical Faculty Mannheim, Heidelberg University, Department of Addictive Behavior and Addiction Medicine, Research Group on Pathological Gambling, Square J5, 68159 Mannheim, Germany. Tel.: +49 (0)621 1703 3543; fax: +49 (0)621 1703 3505.

E-mail address: [mira.fauth-buehler@zi-mannheim.de](mailto:mira.fauth-buehler@zi-mannheim.de) (M. Fauth-Bühler).

<sup>1</sup> Tel.: +49 (0)621 1703 3543; fax: +49 (0)621 1703 3505.

substance use disorders, in particular nicotine dependence followed by alcohol use disorders. The second highest ORs were found for mood disorders. The German epidemiological PAGE study which took into consideration additional data from  $n = 101$  gamblers undergoing inpatient treatment [6] reported comparable results [7]. Thus, epidemiological and clinical studies consistently found increased rates of substance use disorders in pathological gamblers.

Patterns of familial aggregation of psychiatric disorders may shed light on similar underlying neurobiological mechanisms. Family history of pathological gamblers has been studied by Dannon et al. [8]. They report higher prevalence rates for alcohol abuse, problematic gambling, depression, and anxiety disorders in the group of pathological gamblers and their first-degree relatives compared to the control group. These findings were further supported by Black et al. [9] who found a co-aggregation of pathological gambling and substance use disorders (among other psychiatric conditions such as affective disorders) in first-degree relatives of pathological gamblers compared to control's relatives. Black et al. also reported increased rates of compulsive buying in pathological gamblers and their first-degree relatives compared with controls and their relatives [10]. Another study in slot machine gamblers reports a familial co-aggregation with parental pathological gambling but not with alcohol or tobacco dependence [11].

A study of 517 pathological gamblers (currently gambling) found that those with at least one problem gambling parent were more likely to have a father with an alcohol abuse/dependence problem, have financial and legal problems and report daily nicotine use [12]. These findings support the assumption of a biological predisposition for addictive behaviours in general including gambling and substance-related addictions. In a study of non-treatment-seeking pathological casino gamblers interviewed in-site, a familial aggregation of pathological gambling was supported. The risk for being a pathological gambler increased threefold when at least one problem gambling parent existed. In contrast to some previous studies that recruited gamblers with different preferred types of games and in different settings, in this sample no familial co-aggregation of pathological gambling with alcohol or tobacco dependence was observed [11]. Despite some discordance, family history studies suggest a familial co-aggregation of substance use disorders and “behavioural addictions” such as pathological gambling and compulsive buying in pathological gamblers.

Results are less consistent as far as personality characteristics and traits are concerned. Studies have not yet led to a consensus on whether self-reported sensation seeking (assessed with Zuckerman's sensation seeking scale), for example, is more prevalent in pathological gamblers than in non-gambling controls, e.g. [13,14] or whether gamblers are in fact low sensation-seekers, e.g. [15–17] – as measured in some subscales [18]. Yet, other studies have found no differences in sensation seeking between pathological gamblers and nongamblers, e.g. [19–22]. A recent meta-analysis found no signs of increased sensation seeking (assessed with different questionnaires) in pathological gamblers versus nonpathological gambling controls (mean weighted effect of  $d = 0.04$ ) [23].

Similar inconsistencies have been found for impulsivity as measured with the Barratt Impulsivity Scale. While some studies found increased impulsivity scores in pathological gamblers using the Barratt Impulsivity Scale [24–27], others found significant differences only for particular subscales such as non-planning impulsiveness, e.g. [28] or no significant differences at all, e.g. [29–31].

With respect to the “Big Five” personality traits, studies have consistently found subjective score differences in openness to experience, conscientiousness, agreeableness, and neuroticism

between pathological and non-problematic gamblers [32–34]. Another study revealed significant associations between high-risk gambling and the personality traits openness and conscientiousness. However, these effects disappeared when comorbid drug intake was taken into account highlighting the importance to control for comorbid substance use disorders [35].

In summary, distinct lines of evidence on family history of psychiatric disorders, psychiatric comorbidity and to a lesser extend personality variables suggest similarities between pathological gambling and substance use disorders. In line with these data, pathological gambling, previously considered as an impulse control disorder (ICD-10; DSM-IV), has been reclassified as behavioural addiction under the category of “addictions and related disorders” in the DSM-5 [36].

The new classification of pathological gambling as addictive disorder in DSM-5 is however under debate within the ICD eleventh revision [37,38]. In addition to neurobiological information, data on family history of psychiatric disorders, psychiatric comorbidity and personality variables can provide further scientific evidence for a well-informed decision especially when such information derives from a well characterized large treatment sample of pathological gamblers.

We studied detailed sociodemographic and gambling-related characteristics with a particular focus on psychiatric comorbidity, family history of psychiatric disorders and personality characteristics of pathological gamblers in treatment. We tested the hypothesis that pathological gamblers reveal increased rates of comorbid substance dependence but no differences in impulse control disorder rates. We further hypothesized that first-degree relatives of pathological gamblers exhibit higher rates of substance dependence compared to first-degree relatives of healthy controls. Last but not least, we expected to see personality profiling in pathological gamblers resembling those in alcohol dependence. Specifically, we expected to find increased impulsivity scores [39], differences in all big five-personality dimensions of the NEO-FFI (i.e. higher neuroticism, lower extraversion, lower openness, lower agreeableness and lower conscientiousness; [40]) and increased sensation seeking scores [41]. Importantly, personality characteristics have been shown to be modulated by various factors such as psychiatric comorbidity [42], age [43], and ethnicity [44]. In their majority, previous studies on personality traits in pathological gamblers did not systematically take these factors into consideration, which might explain heterogeneous findings. In our study, we therefore assessed a subsample of “pure” gamblers (no psychiatric comorbidity, non-smokers) and compared the findings to healthy, non-smoking controls matched for age and ethnicity.

## 2. Methods

### 2.1. Study design and participants

The “Baden-Württemberg study on pathological gambling and related disorders” was funded for a five years period (2009–2014) by the federal state of Baden-Württemberg in South West Germany. Patients and controls were recruited between March 2009 and March 2012. We investigated several aspects of gambling such as neurobiology [45–47], genetics [48], personality and clinical aspects. For the clinical and personality aspects addressed in this manuscript, we included data from  $n = 515$  pathological gamblers and  $n = 269$  healthy controls. The pathological gamblers were recruited consecutively from inpatient ( $n = 466$  including day clinic) and outpatient ( $n = 49$ ) public treatment centres following presentation for treatment of pathological gambling. Patients from the following institutions were included: Kraichtal hospital Münzesheim ( $n = 256$ ), AHG hospital Münchwies ( $n = 164$ ), Outpatient Clinic for Behavioural Addictions, Department of

Download English Version:

<https://daneshyari.com/en/article/5721452>

Download Persian Version:

<https://daneshyari.com/article/5721452>

[Daneshyari.com](https://daneshyari.com)