

# Relationship between Criminal Behavior and Mental Illness in Teenagers

A. Chirita, L. Alexandru, D. Marcoci, and C. Ene-Draghici

**Abstract**—Minor law breaking seems more and more to be a part of adolescence behavior. An important risk factor which seems to influence delinquency appears to be the socio-economic one. According to Romanian statistics, during the first six months of 2012, 1,378 minors have committed various crimes, the most common being theft, sexual offenses and violent assaults. Drug-related offenses did not reach the gravity of those from high income countries of the European Union, but have a continuous upward during the last years.

The aim of our research was to examine whether delinquency in adolescence is correlated to mental disorders or socio-economic and familial factors. Forensic psychiatric expertise was performed to 79 adolescents who committed offenses between 01 January 2012 and 31 December 2012. Teenagers, with ages between 12 and 17, were examined by day hospitalization in the University Clinic of Psychiatry Craiova.

**Keywords**—Adolescents, criminal behavior, mental illness.

## I. INTRODUCTION

JUVENILE delinquency is a type of crime which has acquired its own identity, given the groups of individuals that represent it. This can be explained by the fact that it has grown separately from and out of general criminality evolution. The causes that trigger delinquency in juveniles differ from those that prompt adults to commit crime. Offending behaviour manifested by minors is a deviant act, reflected by the failure to conform to societal norms due to bio-psycho-social factors [1], [2].

Personality begins to develop at the age of two and the family is the first to shape the child's personality. Adolescence is a very important period for accelerated personality development because teenagers experience what we call „identity crisis”, rebelling against family environment and society, generally. Personality becomes much more complex during adolescence, and so does the young adult's capacity to use abstract and analytical reasoning. The role of school and friends is also crucial in shaping behavioural traits [3]. Teenagers understand the world based on subjective views, so both parental and teachers' rationality are required.

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Personality becomes stable in late adolescence. Young individuals then develop their own set of permanent values and ideals. There are cases of low or even lacking family support and negative influence of school colleagues and friends that might end in offending behaviour. Personality of young offender is shaped by a combination of external factors. These environmental factors give raise to a temporary imperfect personality, to a young individual who finds it hard to obey rules and norms in a society.

Even though current levels of crime are lower than those in most Western countries in the European Union, the level of juvenile delinquency has increased nationally, becoming a matter of growing concern among Romanian society. National data show a total number of 1355 offenses committed by juveniles in 2011. National legislation in force stipulates that all individuals under 18 years of age who had committed offenses must be referred to forensic psychiatric expert examination [4].

## II. AIMS

Firstly, the aim of our research was to show the correlation between criminal behaviour and mental illnesses possibly occurring in childhood and adolescence. Secondly, our goal was to lay stress on risk factors that caused criminal behaviour in minors. We also tried to assess whether individual risk factors (psychiatric disorder, familial environment) or social risk factors prevail in the etiopathogenesis of deviant behaviour.

## III. MATERIAL AND METHODS

A prospective study was performed on a sample made up of 79 juveniles who received, upon request, one-day hospitalization in the outpatient compartment within the University Clinic of Psychiatry Craiova, between 1 January 2012 and 31 December 2012. Patients who had committed various crimes were subsequently subject to a forensic examination report at the Institute of Forensic Medicine, Craiova. Patients were selected according to the following inclusion criteria: age requirements: 0-18; existence of already committed crimes, possibly provoked by a mental disturbance; psychiatric expert's examination requested by Craiova Forensic Institute; patient's consent.

By the use of direct clinical examination we could study the following:

- Case reports of outpatients (one-day hospitalization), analysing psychiatric and psychological examination, other investigations and paraclinical examinations);

- Addresses sent by the Public Prosecutor's Office, sometimes the case file in question or even the full file, or any other documents stating the crime type and the observation of the prosecutor concerning behaviour during prosecution;
- Medical reports prior to admission showing such previous admissions, investigations and treatments undertaken (discharge summaries, certificates of disability certifying that the minor suffers from neuropsychic disorder, vocational school graduation certificates).

Statistical data provided the following items: gender and age; existence of collateral hereditary antecedents: of mental disorders, of crime; level of education: illiterate, primary school, secondary school, high school; nosological groups: no psychiatric disorders, epilepsy, personality disorders, mental retardation, psychosis; risk factors; types of crimes committed: bodily injury, sexual offenses, theft, robbery, drug-related offenses, murder, infanticide.

Firstly, each item was analysed separately, eventually making use of specific coefficients which correlated with various indicators.

*Z test* for proportions was used to investigate the statistical significance of the difference between a theoretical frequency  $f$  (in population) and the observed frequency  $p$  in a representative sample, for a qualitative variable, binary, or to compare frequencies calculated on two randomized samples, independent, extracted from two different populations. The test is correctly applied if the number of observations  $n$  is sufficiently large ( $n \cdot p, n \cdot (1-p) > 10$ ), or if the two samples have a sufficient number of subjects ( $n_1, n_2 > 30$ ).

*Chi square test* is a statistical test that shows if there is any connection (mutual influence) between two factors. It was used to interpret tables of incidence generated by cross tabulation of pairs of factors followed in this study. Chi square test is valid if at least 80% of likely frequencies and all frequencies exceeding 5 samples exceed 1. For this reason, to check differences in distribution (percentage differences) for different categories of qualitative factors studied, we used Fisher's exact test, chi square test equivalent, but can be used in cases where the validity of the test conditions Chi square are not met.

*Fisher's exact test* is used for small batches with low number of patients (below 100), for tables with reduced incidence categories (2x2, 3x2, 4x2, 3x3) and is valid even in situations where probable frequencies are below 5 or even 0. As with any statistical test, the test result can be equated with a p-value, which must be below 0.05 to indicate statistical significance.

#### IV. RESULTS

It was highlighted a higher prevalence of 73.42% of male patients, which means that there is a higher incidence of criminal acts correlated with mental disorders in men. In addition to this, for 2011, national statistics show that 90.13% of offenses were committed by males under 18. The percentage of boys with criminal behaviour is lower than that found nationally (the 73.42%  $\pm$  9.74% range does not include

the value of 90.13%). Calculating the z-score for proportions we obtained a value  $z = 3.3621$ , which corresponds to  $p = 0.0008$ , therefore less than the limit of high statistical significance 0.001.

With regard to patients' age, most of the crimes (78.52%) were committed by patients aged 15 or more.

Considering that the population in the Dolj County consists of 48.8% men and 51.2% women, we can affirm that there is a highly significant difference between these ratios and proportions computed for the total number of subjects (73.42% of 79 male patients hospitalized with a 95% confidence interval ranging between 63.68% and 83.16%), because the p value obtained using the Z score for one proportion was  $p < 0.0001$  (corresponding to a computed z score = 4.9536). In conclusion, the percentage of admissions for male subjects is significantly higher than the ratio of male sex in Dolj County's population, so we can highlight a clear predisposition of this gender for offending behaviour.

The hereditary factor was of little significance; therefore, social factors were pathognomonic for offending behaviour (Fig. 1). Similarly, an overview on violence and mental illness communicated in 2003 highlighted that genetics and mental disorder were neither necessary, nor sufficient causes of violence, the major determinants continuing to be socio-demographic and socio-economic factors [5].

We did not notice a significant difference in distribution, related to the gender of patients, regarding the psychiatric family history, the Fisher's exact test being  $\sim 1$  and the Chi square test  $p = 0.931$ , so much greater than the maximum allowed threshold, 0.05.

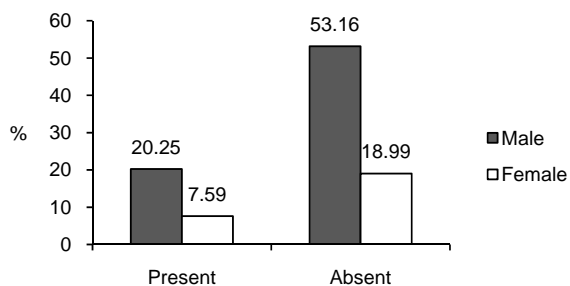


Fig. 1 Presence of hereditary psychiatric antecedents

Most of the patients included in the sample – 78.48% committed their first violent act, while repeat offenders were mostly males – 18.99% (Fig. 2). Similar works showed to a greater extent that factors that seem to mediate the interaction between mental illness and crime included previous criminality [6]. However, there is a rise in repeat juvenile criminality in Romania. It is alarming that all serious crimes are committed by juvenile criminal offenders under drug influence. Besides, the importance of substance abuse as a risk factor for criminal behaviour has been well articulated in other studies [7]-[9].

We could not demonstrate a significant difference related to sex distribution of patients with regard to criminal behaviour history, the Fisher's exact test result being  $p = 0.213$  and the

Chi square test  $p = 0.118$ , both greater than the maximum allowed threshold, 0.05.

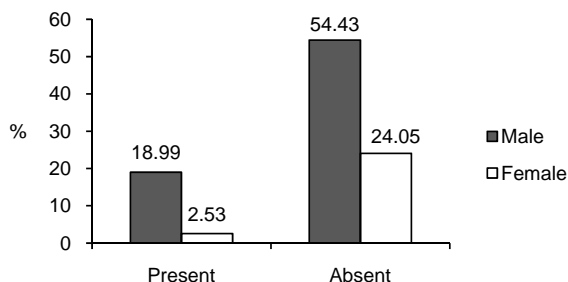


Fig. 2 Presence of criminal antecedents

Poor education and the fact that they cannot conform to social reality determines the delinquent behaviour in minors. The distribution by level of education in our sample shows that 78.48% of patients were at least students in 1-4 grades (Fig. 3). Since Romanian compulsory education system extended until the 10th grade, it should not be surprising that most patients in the group had dropped out of school. The interview revealed various reasons, such as: indifferent attitude towards school, precarious economic conditions, inappropriate domestic environment, membership in groups of friends with a tendency toward negative preoccupations. Distribution by gender shows that young girls have better performances at school than boys.

We found a significant difference in distribution, gender-related, regarding the education level of the subjects, the Fisher's exact test result being  $p < 0.0001$ , and the Chi square test  $p = 1.97 \times 10^{-6}$ , so well below the maximum value still showing a high statistical significance, 0.001.

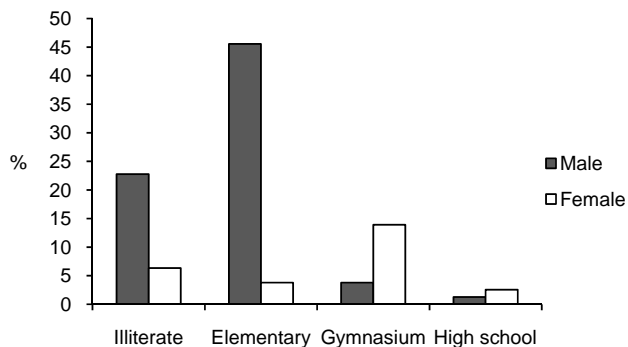


Fig. 3 Level of education

The mental health assessment of juvenile offenders so as to lead to forensic evaluation included the following steps: make a diagnosis; exclude simulation; establish whether personality disorders are permanent or episodic and evaluate their intensity; make a prognosis; recommend individual therapy for social and medical rehabilitation; impose security measures, depending on the severity of the mental impairment.

The psychological examination overall helped creating the profile of the young offender, a mix of reactions of frustration, psycho-motor instability, psychoaffective immaturity, inclination towards rebellion, lack of realistic goals, lack of control concerning emotions and volition. 48.32% of the participants showed a propensity for drug use, the motivational factor of deviant behaviour.

Statistical analysis of the group confirmed the presence of delinquency not correlated to mental illnesses, especially in male subjects. Therefore, 16 out of 18 subjects with no mental disorders were boys – 20.25% (Fig. 4). We have also noticed the tendency to recidivism and drug use among mentally healthy patients.

As to psychiatric cases, behavioural disorders are prevalent in pathological personalities. The most common profile is that of a subject presenting disharmonic and dissocial development of personality, associated with instability, aggression, failure to abide by the law, rules and discipline. Subjects in this group acted deliberately, except cases where the offense was committed as a result of psychotic relapse, with impaired judgement.

Among patients with epilepsy, where gender distribution was almost balanced, most offenses were committed during an altered state of mind and the interictal phases of an epileptic episode, associated with amnesia. They acted with no discernment and were involved in irrational and unintentional offenses (uncontrolled aggression, unjustified theft). Patients in this group, who committed illicit acts during an interictal phase, were analysed according to impulsive outbursts, explosive temper and aggressiveness they presented. Risk of seizure occurrence and harmful effects of substance consumption in small quantity have also been observed.

The following two situations were significant in patients with mental retardation, where gender distribution was almost balanced: either serious offenses committed with no precaution (i.e. two cases of infanticide in young females, two murder attempts in men); or, in most of the times, mentally retarded patients were only passive participants in the criminal act committed by a leader. Patients who were given this diagnosis were not capable of discernment, according to the degree of mental retardation.

The two cases of psychosis were related to boys with psychiatric antecedents and hereditary collateral history. They committed violent physical aggression directed toward family members. In the MacArthur Violence Risk Assessment Study, the most likely targets of violence were family members or friends (87%), and the violence typically occurred at home [10]. In fact, most studies suggest that violent incidents among persons with serious mental disorders are sparked by the conditions of their social life and by the nature and quality of their closest social interactions [11]. Although in both cases they could not be held responsible for their actions, the offenses were as serious as to require the admission of patients in psychiatric facilities with special security measures. Besides, both patients used infrequently outpatient mental health services.

Statistically, it could not be demonstrated a significant

difference in distribution, related to the gender of the patients, regarding the nosological framing of subjects, because computing the Chi square test we obtained a p-value = 0.219,

greater than the maximum allowed threshold, 0.05.

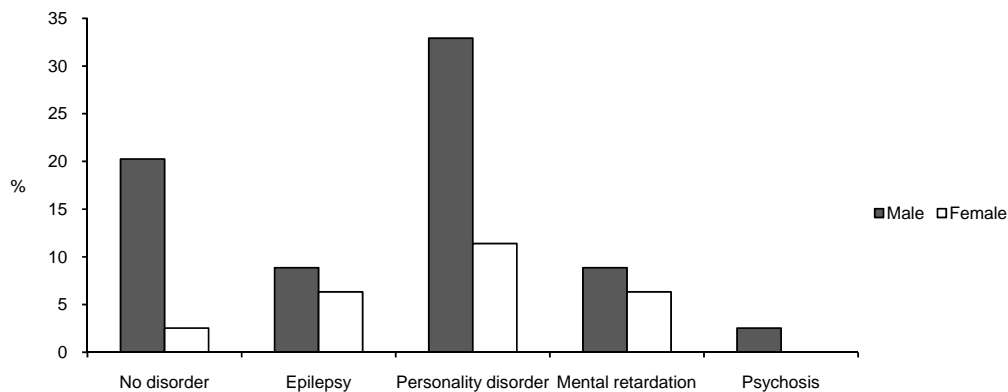


Fig. 4 Nosological structure

Not only external stimuli activate criminal act. It can also be generated by the actual living conditions in conjunction with the personality of the individual, including all his interests, habits, opinions and mental features. By frequency and importance, the main causes of and conditions for juvenile delinquency in our sample were listed as follows:

- Disrupted families, given the current situation in Romania, where families are broken due to immigration in West-European countries of one of the parents (especially the mother) or both;
- Bad influence exerted by adult offenders from the group of peers, who talk minors into committing anti-social acts;

- Alcohol and drug consumption (especially soft drugs);
- Existence of criminal familial antecedents or mental illness antecedents;
- Lack of stability between family and school, disruption in education.

Crimes such as theft/robbery were committed by the majority of patients in the sample in proportion of 48.10% (Fig. 5). The percentage of these offenders largely overlaps clinical groups of those patients with personality disorders and, more precisely, of those mentally healthy.

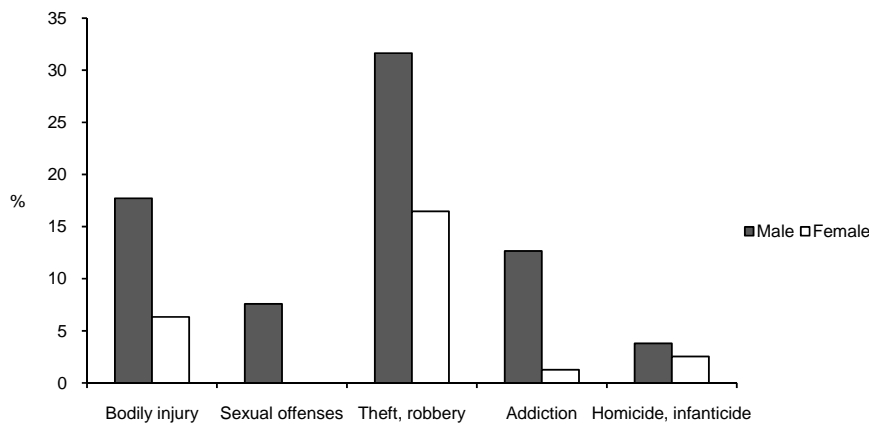


Fig. 5 Types of offenses

Bodily injury offenses were mainly committed by patients suffering from epilepsy and personality disorders, drug-related offenses by those mentally healthy. Sexual-related offenses were committed by male patients with mental retardation, while serious crimes by those with psychosis (men), epilepsy and mental retardation (women).

We could not demonstrate a significant difference in distribution, related to the gender of the patients, regarding the types of crimes committed by the investigated subjects, because computing the Chi square test we obtained a p-value = 0.240, greater than the maximum allowed threshold, 0.05.

## V. CONCLUSIONS

The existence of a psychiatric disorder is one of the major risk factors that may lead to juvenile offending behaviour, especially when it combines with negative family factors and social risk factors.

The profile of the young offender is characterized by several traits that trigger deviance: predominance of young males over young females, alcohol and soft drug abuse, influence exerted by an adult peer offender, poor level of education (especially dropping out), existence of personality-related disorders, namely impulsive-explosive or dissocial personality disorder.

Nowadays, migration is situated on the top of social risk factors that cause juvenile delinquency, as more than one half of minors are left in one-parent households.

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