

Juvenile delinquents and sports

Abstract

A sample of 80 juvenile delinquents was examined to determine the motives that decide juvenile delinquents decide to play sports. For this purpose, a survey of eleven questions was used. After the conducted research and extensive statistical analysis, three factors were extracted, the first of which is particularly relevant. It can be reliably concluded that juvenile delinquents play sports in order to consume alcohol after and before training, smoke, take opiates, miss school and be out of parental control. The second and third factors are positive, but significantly weaker than the first. The structure of positive factors consists of variables: I play sports to travel, to earn money, to live a healthy lifestyle. To be with a girl who also plays sports. The first factor contributes 42%, the second 17% and the third 16% to the explanation of the problem.

Keywords: minors, delinquents, sport, motives, factors

Introduction

Juvenile delinquency is a serious problem of the modern world. Who is a juvenile delinquent and who is an adult varies from state to state. The age range of minors ranges from 14 to 18 years. In some countries, that range is higher and ranges from 10 to 21 years. In the US, that range varies from state to state. Some states have moved the lower limit below 10 years, and some have moved the upper limit to 21 years.¹ There are many definitions of delinquency. The recognizable phrase reads; delinquents are persons with deviant behavior. It is about behavior that is not aligned with the applicable law and social norms. Numerous professional and scientific institutions deal directly and indirectly with the problem of delinquency. Delinquency is especially being dealt with by psychologists, sociologists, pathologists, criminologists, political scientists, kinesologists, etc.

The complex phenomenon of delinquency is being viewed, and is being studied from the point of view of a specific profession and science. Delinquency and criminality is in causality with numerous endogenous, exogenous, cognitive and conative, manifest and latent variables and factors. Deviant and antisocial behavior implies various types of violence against peers, and also younger and older people are not spared. As a rule, juvenile delinquents are persons who are neglected in the family, rejected in society and problematic in school. There are numerous studies on juvenile delinquents and non-delinquents.

There are various comparisons based on; intelligence, success in school, sports, aggressiveness, phobic, paranoid, frustration tolerance and even in physical appearance (morphology), etc. In general, there are differences between delinquents and non-delinquents according to the variables and factors mentioned. In some cases, these differences are statistically significant. Research on the cognitive level is particularly interesting.²

From the perspective of legal norms, juvenile delinquents are minor and major offenders, with problematic antisocial behavior, excluding crimes such as murder. Delinquency begins with petty thefts, frauds, deceptions, lies, individual and group fights, kidnappings from the weaker ones. The status symbols of juvenile delinquents are: smoking, alcohol, psychoactive opiates and deviant behavior.³ They ignore, ridicule and bully the peers of acceptable behavior. They especially show animosity towards their peers, good students and athletes. They provoke parents, teachers, elders and superiors. They are recognizable by increased and uncontrolled aggressiveness,

rigidity, anxiety and immorality. They associate informally with peers of similar inclinations. Their idols are adult “successful” criminals. In the beginning, they gather informally in smaller groups (cliques), and over time they potentially grow into serious delinquents and criminals.

Subject and problem of the research

The subject and problem of the research are juvenile delinquents and the motives that influence, encourage and decide juvenile delinquents to play sports. The emphasis on sports is the assumption that juvenile delinquents can be resocialized through sports. In this direction, there are studies that confirm, but also refute this assumption.⁴

Goal of the research

The goal of the research is to accurately and impartially determine the relevant factors that cause juvenile delinquents to play sports. The factors are determined by eleven manifest variables, i.e. questions. The questions are defined in the Survey.

Research hypothesis

The results of previous and current research show that juvenile delinquents spend a lot of time on the Internet. According to their possibilities, they consume alcohol, smoke, use psychoactive substances.⁵ Betting houses are a substitute for schools, a place where minors often gather and work out methods to get money in an easy way. All in all, it is illegal (unlawful), which is why they are sanctioned and registered as light or serious delinquents by the competent institutions. Motives for doing sports are in the background. Sport is just a cover (mask) for them to be absent from school, to avoid control by parents and teachers, as well as to deceive the social environment.

Survey

“What are your motives for playing sports” (rank by priority from 1 to 5).

- My parents or close relatives were athletes (2)
- To be popular ()
- To travel (3)
- To earn money (1)
- To live a healthy lifestyle ()
- To be more with company outside the home (4)

Volume 5 Issue 3 - 2022

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Received: September 30, 2022 | **Published:** October 14, 2022

- g) To spend time with girlfriends and boyfriends who play sports ()
- h) To consume alcohol and cigarettes before or after training ()
- i) That I consume some opiate before and after training ()
- j) To be able to be absent from school more (5)
- k) Some other motive _____

In the fictitious example, the answers to these questions were: (d=1, a=2, c=3, f=4, j=5). The ranking of priorities was as follows: The first priority is “To earn money” (d). In the second place (a). “My parents and close relatives were athletes”. In third place, the priority is c). “To travel”. In fourth place is (f). “To be more with company outside the home”. The fifth priority is (j). “To be able to be absent from school more”. The respondent can circle a maximum of five answers. In addition to the circled questions, the respondent writes the priority ranking from 1 to 5 in parentheses (). In the example, the first priority is (d) “I play sports to earn money”, etc., the fifth priority is (j). “To be able to be absent from school more”.

The sample of respondents consists of 80 male juvenile delinquents, aged 14 to 18, who live in the territory of the state of Montenegro. According to the relevant records of the competent institution (Ministry of Internal Affairs), all respondents were registered as juvenile delinquents. In order to conduct the research, it was necessary to obtain consent from the competent ministries (Ministry of Internal Affairs and Ministry of Education).

Table 1 Basic statistics motives⁷

Motives	Motiv-a	Motiv-b	Motiv-c	Motiv-d	Motiv-e	Motiv-f	Motiv-g	Motiv-h	Motiv-i	Motiv-j
Valid	42	42	49	47	60	42	30	22	17	25
Missing	38	38	31	33	20	38	50	58	63	55
Mean	2.45	3.29	2.92	3	2.9	2.52	3.37	3.27	3.53	2.92
Std. Error of Mean	0.251	0.249	0.193	0.213	0.21	0.202	0.189	0.379	0.471	0.336
Std. Deviation	1.626	1.612	1.351	1.46	1.623	1.311	1.033	1.778	1.94	1.681
Skewness	0.608	0.198	0.048	-0.131	0.118	0.627	-0.42	-0.343	-0.632	0.136
Std. Error of Skewness	0.365	0.365	0.34	0.347	0.309	0.365	0.427	0.491	0.55	0.464
Kurtosis	-1.288	-1.634	-1.058	-1.427	-1.628	-0.221	0.378	-1.765	-1.778	-1.66
Std. Error of Kurtosis	0.717	0.717	0.668	0.681	0.608	0.717	0.833	0.953	1.063	0.902
Minimum	1	1	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5	5	5

Other statistical parameters describe the variability around the arithmetic mean, in order to obtain a valid and reliable representation of the compliance of manifest variables with a normal Gaussian distribution. Standardization of all variables xi was performed. The original, absolute values were transformed into z-scores. Considering that the primary goal of this work was to determine the motives that led juvenile delinquents to choose sports, an explicit answer was obtained by applying a number of correlation and factor analyzes and tests. On the set of 10 manifest variables, the Factor Analysis Method of the main components (Principal Component Analysis) was applied. The total (explained) variance (Total Variance Explained) was calculated. After extracting the three relevant components (factors), the component matrix was calculated on three factors (Extraction Method: Principal Component Analysis), after which the orthogonal rotation of the factors (RotatiVarimax with Kaiser Normalization) was performed.

Table 2 (Total Variance Explained) shows characteristic roots for each manifest variable. Only those whose values are $\lambda \geq 1$ are considered relevant characteristic roots. In the example, there are three

A large number of standard and non-standard statistical tests and methods were applied in this research to the adequately set Goal and Hypothesis. Basic statistical values are shown in Table 2. Tables 3 and 4 show the results obtained by the procedure of several factor analyses: (Extraction Method Principal Component Analysis, Extraction Method Principal Component, Rotation Method Varimax with Kaiser Normalization).

Correlation and transformation matrix are not shown in the paper. The source data is standardized by algorithm;

$$Z_i = (x_i - \mu_i) \sigma^{-1}$$

and then rescaled to a five-point “Likert scale”,⁶ followed by correlation and factor analysis.⁷

Results and discussion

Basic statistics is shown in Table 1. First, the values of the arithmetic means (Mean) are looked at. As you can see, the smallest arithmetic mean is 2.45 and refers to (Motiv-a), and the largest is 3.37, it is about (Motiv-g). It should be noted that the priorities are ranked from 1 to 5, so the variable with the smallest arithmetic mean is prioritized first, and the variable with the highest arithmetic mean is prioritized last. Missing values show that a large number of respondents were not willing to give an answer. In the example (of Motiv) it reads; “My parents or close relatives were athletes”. Motiv-g reads; “To spend time with a girl”.

relevant characteristic roots that meet the given criteria $\lambda_1 = 4.145$, $\lambda_2 = 1.697$ and $\lambda_3 = 1.650$. As a rule, the first characteristic root is always greater than the second, the second than the third, and so on ($\lambda_1 > \lambda_2 > \lambda_3, \dots, \lambda_n > \lambda_{n-1}$).

The relevance of the characteristic roots is determined by the size of the valid variance. In the example, the first characteristic root corresponds to a variance of 41.445%, the second 16.968% and the third 16.496%. Therefore, the total explained variance is 74.909%. Based on the above indicators, it can be concluded that the explained (valid variance) amounts to approximately 75%. Given that the explained variance is 75%, it follows that the unexplained variance is 25%. A careful reader may notice that the test contains 11 questions. In the statistical procedure, the question (Motiv-k) that reads “Some other motive” is missing.⁸ There were no answers to this question, that is, it was negligible, so this variable was excluded from the statistical procedure. After several statistical correlation and factorization procedures, the conclusion was drawn based on the Rotated Component Matrix (Varimax with Kaiser Normalization) (Table 3).

Table 2 Initial Eigen values extraction sums of squared loadings

Component	Total variance explained					
	Initial Eigen values			Extraction sums of squared loadings		
	λ	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.145	41.445	41.445	4.145	41.445	41.445
2	1.697	16.968	58.413	1.697	16.968	58.413
3	1.65	16.496	74.909	1.65	16.496	74.909
4	0.96	9.595	84.504			
5	0.572	5.717	90.222			
6	0.488	4.882	95.103			
7	0.295	2.947	98.05			
8	0.139	1.386	99.436			
9	0.054	0.543	99.979			
10	0.002	0.021	100			

Table 3 Correlations with the first component (Component matrix and rotated component matrix)

Communalities		Component matrix					Rotated component matrix				
Motiv-a	1	0.756	Motiv-h	0.983	-0.023	0.052	Motiv-h	0.911	-0.355	-0.118	
Motiv-b	1	0.395	Motiv-i	0.971	0.02	-0.054	Motiv-i	0.878	-0.352	-0.229	
Motiv-c	1	0.862	Motiv-e	-0.855	0.073	-0.081	Motiv-e	-0.79	0.341	0.048	
Motiv-d	1	0.745	Motiv-b	0.545	0.208	0.235	Motiv-a	0.756	0.227	0.365	
Motiv-e	1	0.743	Motiv-j	0.537	0.513	-0.131	Motiv-b	0.625	0.067	0.018	
Motiv-f	1	0.84	Motiv-c	-0.511	0.767	0.11	Motiv-j	0.581	0.202	-0.436	

According to the obtained correlation coefficients, Motiv-h is in first place, which explicitly reads: “I do sports to consume alcohol and cigarettes before or after training”. The correlation of this motive with the first factor is .911. In second place is Motiv-i. “To consume some opiate before and after training”, this motive is correlated with the first factor .878. As you can see, the first factor determines 6 variables whose correlation coefficients successively decrease. The last relevant motive on the first factor is Motiv-j which reads; “I play sports so that I can be away from school more”. The second factor consists of only two motives. Motive-c “I do sports to travel” and Motive-d “I do sports

to earn money”. The correlation of Motive-c with the second factor is .884, and that of Motive-d is .856. The third factor is also defined by two variables. Motive-f “I do sports to live a healthy lifestyle” and Motive-g “I do sports to spend time with a girl who does sports”. As can be seen, the correlation coefficients with the third factor are .833 and .787. Based on the exact correlation coefficients of factors and motives, it can be concluded that the first factor consists of 6 variables or motives that are negative and undesirable for the individual, family and society. The second and third factors are positive and desirable, but unfortunately they are in the background. See (Tables 2&4).

Table 4 Factor structure after Varimax rotation

1. First factor $\lambda_1=4.145$ i.e % of Variance 41.445	Koef.
Motiv-h “To consume alcohol and cigarettes before or after training”	0.911
Motiv-i “That I consume some opiate before and after training”	0.878
Motiv-e “To live a healthy lifestyle”	0.79
Motiv-a “My parents or close relatives were athletes”	0.756
Motiv-b “To be popular”	0.625
Motiv-j “To be able to be absent from school more”	0.581
2. Second factor $\lambda_2=1.697$ i.e % of Variance 16.968	Koef.
Motiv-c “To travel”	0.884
Motiv-d “To earn money”	0.856
3. Third factor $\lambda_3=1.650$ i.e % of Variance 16.496	Koef.
Motiv-f “To be more with company outside the home”	0.833
Motiv-g “To spend time with girlfriends and boyfriends who play sports”	0.787

According to the literature review,⁹ “Adolescent smoking is associated with age, ethnicity, family structure, socioeconomic status of parents, personal income, parental smoking, parental attitudes, sibling smoking, peer smoking, peer attitudes and norms, family environment, attachment to family and friends, school factors, risk behavior, lifestyle, stress, depression/concussion, self-esteem, attitudes and health concerns. It is unclear whether adolescent smoking is associated with other psychosocial variables. Attempts should be

made to use common definitions of outcome and predictor variables. Analyses would should include multivariate and bivariate models, with some attempt in multivariate models to test specific hypotheses. Future research should be theory-driven and consider a range of possible factors, such as social, personal, economic, environmental, biological and physiological influences, which may influence smoking behavior. Apparent inconsistencies in the relationship between parental socioeconomic status and adolescent disposable

income must be addressed, as well as the underlying constructs for which socioeconomic status is a proxy.”

Based on the aforementioned findings, this paper is an attempt to achieve maximum parsimony with the help of multivariate statistical-mathematical methods. The causes of juvenile delinquency are numerous, it is difficult to detect them precisely and even more difficult to quantify. According to previous experience, the primary factors are; family, school and social environment. Problems in the family are undeniably correlated and causal with juvenile delinquency. Sport is a hypothetical factor to prevent delinquency. In case there is no control and supervision by family and school, sport is a good excuse for delinquents.

Conclusion

Conclusion the results of the research show that juvenile delinquents are interested (motivated) in playing sports so that under the “mask” of sports they can more easily avoid control by parents, teachers and the environment in which they live. The primary motive, determination and occupation is: consumption of alcohol, cigarettes, psychoactive substances, absence from school, kidnapping, theft, physical and mental violence, betting, gambling, etc. Declaratively, there are also positive motives which, as you can see, are in the second plan. Given that these are personal statements that are surprisingly honest, it is no coincidence that they were identified as delinquents by the competent institutions. It should be pointed out that a large number of respondents did not want to express themselves, especially on delicate issues. When it comes to honesty, it is stated that they were honest, and they are honest because there is relevant evidence at the competent institutions. Based on the overall exact results of the research, the set hypothesis can be reliably accepted.

Acknowledgments

None

Conflicts of interest

The author declares that there are no conflicts of interest.

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