ASSESSMENT OF SOCIODEMOGRAPHIC RISK FACTORS FOR JUVENILE DELINQUENT BOYS

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ABSTRACT

Purpose: Juvenile delinquency (JD) is increasing day by day and it is more common in males. Many risk factors for JD have been identified. The aim of this study was to determine the sociodemographic characteristics of male JDs and to determine potential predictive effects of sociodemographic factors on JD.

Material and Methods: Juvenile delinquents (JDs) consisted of 138 boys and sociodemographic data of them were obtained retrospectively. The control group (CG) consisted of 133 boys of similar age to JDs, and the participants were asked to fill out sociodemographic data. The potential predictive effect of sociodemographic factors were evaluated by linear logistic regression analysis.

Results: The families of the 94 JDs had low socioeconomic level, and the families of the103 control cases had medium-high socioeconomic level. It was determined that 46% of the mothers of JDs and 18% of their fathers were illiterate, while in CG, these rates were 6% and 0.8%, respectively. The school dropout rate was 0% in CG and 32% in JDs. In addition, 26% of the JDs were found to have another individual committed crime in family. This rate was 3% in CG. It was showed that school dropout, low school achievement, taking disciplinary punishment, low family income and the presence of an individual committed crime in family had potential predictive effect on JD.

Conclusion: The results of the study have showed that there is an association between JD and sociodemographic characteristics. These results may be useful in the development of prevention and intervention programs for JD.

Keywords: Juvenile delinquency, sociodemographics, risk factors, forensic psychiatry

INTRODUCTION

Criminal behavior is an important public and social problem all over the world and committing of criminal behavior by a child further increases the gravity of the problem. The conduct of criminal behavior by a child is described as juvenile delinquency in the literature. Juvenile delinquencies are on the rise in many countries of the world, and among the most common crimes committed by children are theft, violent behavior, sexual crimes, and drug use (1). In the report published by the Turkish Statistical Institute, it was stated that the number of juvenile delinquencies in 2015 was 134 thousand, while this number was reported to be 168 thousand in 2019 (2). In the same report, it was determined that the most common crimes committed by children were wounding and theft (2).

There are many studies in the literature investigating the risk factors for juvenile delinquency. In previous studies, many risk factors including hereditary, psychiatric, familial, associated with school, associated with peer-friend environment have been

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defined for juvenile delinquency (3,4). According to the widely accepted view today, it is stated that the most important factor associated with delinquency is the negative environmental conditions in which the individual lives and the interaction of the individual with these environmental conditions (3). Being male, antisocial behavior, substance use, impulsivity or risk taking were found as individual risk factors (5,6). Low socioeconomic status/poverty, antisocial parents, weak parent-child relationship, inconsistent discipline, separation from parents, broken family structure, abusive parents, neglect were identified as familial risk factors (5,6). In addition, it has been shown that absenteeism at school, poor academic success, presence of peers involved in crime, and gang membership are risk factors for juvenile delinquency (6). It is known that the risk of re-offending in adulthood is high in cases who committed crimes in childhood (7,8). Assink et al., in their meta-analysis study, examined the effects of risk factors determined for juvenile delinquency on life-long permanent delinquency. They showed that, criminal history, aggression, alcohol/drug use, sexual behavior, having delinquent peers, peer rejection, being a gang member, emotional and behavioral problems, poor academic achievement and frequent truancy were risk factors for life-course persistent delinquency (4). In addition, the factors with the strongest effects were found to be in the domains of criminal history and aggression (4). This results show that preventing juvenile delinquency is of great importance to prevent delinquency in adulthood.

Due to the negative effects of delinquency, it is important to prevent children and adolescents from committing and continuing to commit delinquencies. For this reason, it is essential to identify the risk factors that may lead to committing a crime. The vast majority of previous studies on delinquent children were conducted with only juvenile delinquent participants (9–11), and the number of studies involving non-delinquent control group was limited (12). Since sociodemographic characteristics vary according to societies, further studies, including a control group with no criminal record, are needed to determine the effect of sociodemographic factors on juvenile delinquency, in our country. This study was conducted with juvenile delinquents, and controls consisted of children with no previous criminal history. The aim of this study was to evaluate the individual

and familial sociodemographic characteristics of the delinquent children, and the relationship between sociodemographic characteristics and delinquency.

MATERIAL AND METHODS

This study was conducted with 138 male children committed crime, who were referred to Nigde Ömer Halisdemir University Training and Research Hospital Forensic Medicine Outpatient Clinic for evaluation by judicial authorities between November 2017 and January 2020. And, the control group consisted of 133 male children in the same age range without any criminal record. The records of the patients were analyzed retrospectively. The data obtained from the records were documented in the sociodemographic data form prepared by the researchers. Sociodemographic data form consisted of questions about the age of the case, place of residence, educational status, family structure, family income, parents' education level, the type of crime committed, the history of arrest, the number of crimes, and the presence of other individuals involved in the crime in the family. The socioeconomic levels of the families were determined according to the gross minimum wage, and those with a low income level below the gross minimum wage, those with an income between two times the gross minimum wage and the gross minimum wage were defined as medium, and those with more than twice the gross minimum wage were defined as high. The study, approved by the Nigde Ömer Halisdemir University Clinical Researches Ethics Committee (Date: 10.06.2021, No: 2021/58), conducted its research following the principles of the Helsinki Declaration.

Statistical Analysis

The statistical analysis of the data obtained in this study was carried out with the SPSS 22.00 statistical program. The conformity of the variables to the normal distribution was evaluated with the Kolmogrov-Smirnov test. Descriptive statistics for the data obtained are given as mean± standard deviation, number and percentage. In the analysis of the data, Pearson chi-square test were used for independent groups. To determine the potential predictive effects of sociodemographic characteristics on juvenile delinquency, linear regression analysis was performed. Significance level was accepted as $p < 0.05$.

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Table 1. Demographic characteristics of juvenile delinquents vs.control group

Demographic characteristics		JDs (n=138)	Control (n=133)	p
Age (mean ± sd)		15.8±1.46	15.44±1.7	0.06
		n (%)	n (%)	
Living area	Rural	67 (48.6)	52 (39.1)	0.074
	Urban	71 (51.4)	81 (60.9)	
Cigarette use	No	56 (41.2)	124 (93.2)	**0.000**
	Yes	80 (58.8)	9 (6.8)	
Alcohol use	No	108 (78.3)	127 (96.2)	**0.000**
	Yes	30 (21.7)	5 (3.8)	
Previous substance use	No	87 (63)	133 (100)	**0.000**
	Yes	51 (37)	0 (0)	
Literacy of the mother	Illiterate	63 (45.7)	8 (6)	**0.000**
	Primary school	28 (20.3)	38 (28.6)	
	Middle school	38 (27.5)	26 (19.5)	
	High school	5 (3.6)	23 (17.3)	
	University	0 (0)	38 (28.6)	
Literacy of the father	Illiterate	25 (18.1)	1 (0.8)	**0.000**
	Primary school	43 (31.2)	24 (18)	
	Middle school	42 (30.4)	17 (12.8)	
	High school	17 (12.3)	51 (38.3)	
	University	7 (5.1)	40 (30.1)	
Partnership status of parents	Parents together	101 (73.2)	109 (82)	0.057
	Parents separated for any reason	37 (26.8)	24 (18)	
Family type	Nuclear family	94(68.1)	105 (78.9)	0.099
	Extended family	12 (8.7)	10 (7.5)	
	Broken family	32 (23.2)	18 (13.5)	
Socioeconomic status	Low	94 (68.1)	30 (22.6)	**0.000**
	Middle	35 (25.4)	57 (42.9)	
	High	9 (6.5)	46 (34.6)	
Crime committed by another family member	Yes	35 (25.4)	4 (3)	**0.000**
	No	97 (70.3)	129 (97)	

JDs; Juvenile delinquents. Bold indicate p<0.05

RESULTS

This study was carried out with 138 juvenile male delinquents and 133 male control cases. The mean ages of the juvenile delinquents (JDs) group and control group were determined as 15.8±1.46 and 15.44±1.70 years, respectively. There was no significant difference between the JDs and control group in terms of age (p = 0.06). When the cigarette alcohol and substance use of the participants was evaluated, the use of cigarette alcohol and substance was found to be higher in JDs, and the difference between the groups was statistically significant. The family characteristics of the participants were evaluated, and it was determined that 51% of JDs and 61% of controls lived in the city center, and family structures of 68% of JDs and 79% of the control group were found to be nuclear family. Both mother and father education levels were lower in the delinquent group (p ≤ 0.001, p ≤ 0.001). The illiteracy rates of mothers and fathers in JDs group were 46% and 18%, respectively, while the rates in the control group were 6% and 0.8%, respectively. In addition, it was determined that the income of the families of the children driven to crime was statistically significantly lower than the income of the families of the control group (p ≤ 0.001). While the frequency of those living with both parents in JDs group was 73%, it was 82% in the control group. In addition, it was determined that there was another individual involved in the crime in the family of 35 children in JDs group. In the control group, there was another individual involved in the crime in the families of three, four children.

Table 2. Academic characteristics of juvenile delinquents vs. control group

Academic characteristics		JDs (n=138)	Control (n=133)	p
Absenteeism from school	Yes	59 (42.8)	27 (20.3)	**0.000**
	No	79 (57.2)	106 (79.7)	
Taking disciplinary punishment at school	Yes	52 (37.7)	13 (9.8)	**0.000**
	No	86 (62.3)	120 (90.2)	
School report average	0-45	27 (19.6)	1 (0.8)	**0.000**
	46-50	25 (18.1)	1 (0.8)	
	51-69	45 (32.6)	21 (15.8)	
	70-84	21 (15.2)	37 (27.8)	
	85-100	10 (7.2)	73 (54.9)	
School attendance status	Continuing education	91 (65.9)	133 (100)	**0.000**
	Primary school drop out	4 (2.9)	0 (0)	
	Middle school drop out	27 (15.9)	0 (0)	
	High school drop out	18 (13)	0 (0)	

JDs; Juvenile Delinquents. Bold indicate p<0.05.

Demographic characteristics of the participants and their families were shown in Table 1.

While it was determined that all of the control cases continued their education, it was found that 66% of JDs cases continued their education. In order to determine the academic success of the participants, their grade point averages in the last school report were evaluated. While the school report score of approximately 40% of the JDs was 50 and below, this rate was 2% in the control cases. In addition, the frequency of absenteeism from school and receiving disciplinary punishment was found to be 43% and 38% in JDs, and 20% and 10% in control cases, respectively. It was shown that there were significant differences between the groups in terms of continuing education, academic success, absenteeism and disciplinary punishment (Table 2).

The mean age at the time of the first crime was determined as 13.73±1.43. In the JDs group, it was determined that 66 (47.8%) children had a single criminal record and 72 (52.2%) children had more than one criminal record. The most common crime committed by juvenile delinquents was theft (68.3%), followed by injury (13.7%) and sexual abuse (7.9%). In addition, 97 cases were found to have a previous prison history.

Linear regression analysis was performed to examine whether sociodemographic characteristics had a potential predictive effect on juvenile delinquency. The groups (JDs and control) were the dependent variables, and the primary independent variables were sociodemographic characteristics including parents' education status, working status of parents, socioeconomic level, having another member of the family who committed a delinquency, school attendance status, taking disciplinary punishment at school, absenteeism at school. Among sociodemographic characteristics dropping out of school ($p \leq 0.001$), low school achievement ($p \leq 0.001$), taking disciplinary punishment at school ($p = 0.041$), having a low socioeconomic level ($p = 0.019$) and presence of another member who committed a crime in the family ($p = 0.032$) were determined as potential predictors for juvenile delinquency (Table 3).

DISCUSSION

In this study, the sociodemographic characteristics of the juvenile delinquents and the relationship of these characteristics with delinquency were investigated by comparing them with the children without a delinquency history. The results of the study revealed that in juvenile delinquents, school dropout, absenteeism, disciplinary action, smoking-alcohol-substance use are more common, and academic success of them was lower. It was also determined that the education level of the parents and the socioeconomic level were lower, the unemployment of the parents and the presence of another individual who committed a crime in the family were higher in juvenile delinquents. These results has shown that there may be a relationship between sociodemographic factors and juvenile delinquency. In the linear regression analysis, the potential risk factors on juvenile delinquency were determined as dropping out of school, low school achievement, taking disciplinary punishment at school, having a low socioeconomic level, and having members involved in crime in the family.

Table 3. Linear regression model predicting juvenile delinquency by sociodemoghraphic characteristics

Variable	Beta	p
Mothers' education status 0:illiterate ➡ 4:university	-0.094	0.197
Fathers' education status 0:illiterate ➡ 4:university	-0.053	0.426
Family income 0:low ➡ 2: high	-0.135	**0.019**
Mother working status 0: unemployed, 1: has a job	-0.041	0.425
Father working status 0: unemployed, 1: has a job	0.017	0.727
Have another member of the family who committed a crime 0: no, 1: yes	0.103	**0.032**
School report average 0:low ➡ 2: high	-0.160	**0.000**
Taking disciplinary punishment at school 0: no, 1: yes	0.104	**0.041**
Absenteeism from school 0: no, 1: yes	0.000	0.996
Continuing education 0: no, 1: yes	-0.274	**0.000**

Bold indicate p<0.05

Previous studies have shown that delinquent children are more likely to drop out of school and be absent from school, and have lower academic success (11,13,14). In their study with juvenile offenders, Thompson and Morris showed that less than half of male offenders passed tests for achievement in reading, writing and math (15). It has even been suggested that there is a relationship between the severity of the crime and the level of academic achievement, and that young people involved in violent crimes have lower academic achievement than those involved in non-violent crimes (16,17). It is also stated that high school dropout rates encourage the violent crimes (18). In addition, it was found that individuals who dropped out of high school were 3.5 times more likely to be arrested than those who did not, and about 82% of adult prison inmates were high school dropouts (13). The study conducted by Anderson has shown that raising the compulsory education age from 16 to 18 in the USA reduces the arrest rate among 16-18 year olds by about 17% (19). The study, conducted with 67 juvenile delinquents in a clinical sample in Turkey, found that 30% of the cases dropped out of school and 34% of them received disciplinary punishment (11). Kayma and Gökler, in their study with 213 delinquent children, determined that the average of criminal behavior of

adolescents attending secondary and high school education was lower than that of primary and secondary school graduates (20). Ogut et al., in their study with 30 juvenile delinquents and 30 children with no criminal record, found that dropping out of school was statistically significantly higher in juvenile delinquents (12). In line with the literature data, current study showed that the academic achievement of juvenile delinquents was lower, that the school dropout rate was higher, and that the rate of absenteeism was higher. Linear regression analysis determined that dropping out of school, receiving disciplinary punishment at school, and low academic achievement had a potential predictive effect on juvenile delinquency. The influence of school on children's behavior is very important. It is stated that the positive school environment is a protective factor in terms of juvenile delinquency, and there is an inverse relationship between the academic and supervision quality of schools and juvenile delinquency (14). A child who has dropped out of school and has low school attendance stays away from school supervision, may have difficulty in making effective use of free time, and enters the working life at an early age (20). For these reasons, criminal behavior may be higher in these children. These results have shown that it may be useful to carefully

monitor in terms of the development of juvenile delinquency in children who drop out of school, have low academic success, and receive disciplinary punishment.

Studies investigating the association between substance use and criminal behavior have indicated that there may be a bidirectional relationship between these (21). According to the theory that substance use causes a tendency to crime, it is stated that the person commits a crime in order to obtain the substance (22). According to the theory that crime causes to substance use, it is stated that the person uses substance because substance use is common in the environment where the offenders are located (21). In a meta-analysis study, it has been determined that the risk of being involved in crime is 3-4 times higher in people who use substances than those who do not use substance (23). The study conducted with adolescents seeking treatment for substance use disorder found that 50% of the participants were involved in crime and 17% of them had a prison history (24). In another study conducted with 101 juvenile delinquents, it has been determined that 66% of juvenile delinquents use cigarettes, 13% use cigarettes and alcohol, and 19% use cigarettes and substances (10). Current study showed that cigarette-alcohol-substance use in juvenile delinquents was higher than the control group and the difference was statistically significant. These results have shown that there is a significant correlation between juvenile delinquency and substance use, and suggesting that interventions for substance use may be beneficial to prevent juvenile delinquency.

Another factor associated with juvenile delinquency is socioeconomic level (13). It is stated by some researchers that the most important predictive factor of the incarceration of juveniles is socioeconomic level (25). In this context, many studies have found that families of juvenile delinquents have a low socioeconomic level and poverty is a risk factor for juvenile delinquency (9,10). Some researchers explain the effect of socioeconomic level on juvenile delinquency as an indirect factor with a moderator effect rather than a direct effect (13). The study by Defoe et al. has found that low socioeconomic status is not a direct cause of delinquency, it has an indirect effect on juvenile delinquency and is a contributing factor to other variables related to delinquency (26). It is suggested that low socioeconomic level causes juvenile delinquency through its negative effects on low academic achievement and family relationships

(26,27). Güler et al., in their study with 100 juvenile delinquents, found that 89% of the children's families had a low-middle family income, and Avcıl et al. found that 62% of the families of juvenile delinquents had a low socioeconomic level (9,10). In our study, similar to the literature data, it was found that the families of juvenile delinquents had a lower socioeconomic level. It has been also determined that low socioeconomic level may have a potential predictive effect on juvenile delinquency.

In previous studies, it has been shown that the education level of the parents of juvenile delinquents is mostly at primary school or below, and the education level of the mothers is lower than the education level of the fathers (1,9,10,20). In current study, it was determined that the education level of the parents of juvenile delinquents was lower than the parents of the control group and the difference between the groups was statistically significant. As the education level of the parents decreases, deficiencies may arise in the education and development of the child, and the child's development may not be adequately supported by the parents. Behavioral problems may develop in the child who cannot be adequately supported in the family environment and the risk of committing a crime may increases (28). Parents' education levels have also an impact on parenting skills, which is associated with juvenile delinquency (29,30). The low level of parental education may cause negative parental attitudes and increase the risk of delinquency in children.

Other remarkable findings of this study was that there were a higher rate of having another individual involved in crime in the family of juvenile delinquents, and the presence of an individual involved in crime in the family had a potential predictive effect on juvenile delinquency. In studies conducted with juvenile delinquents, it has been determined that approximately 30-40% of the families of juvenile delinquents have an individual with a criminal history (9,10). Ogut et al., similar to current study, revealed that the status of having an individual involved in crime in the family was statistically significantly higher in juvenile delinquents than in the control group (12). In their longitudinal study, Farrington et al. have determined that the presence of a criminal history of father, mother, brother or sister is an important predictor of delinquency in boys (31). One of the ways of children learning is social learning, and children learn by observing their parents' behavior (28). In addition, it is suggested that negative social

representations of parents that arise due to a criminal history may cause negative events such as delinquency by lowering the social acceptance of children. Therefore, it is important that there is an individual who commits a crime in the family, in terms of juvenile delinquency (32). We are opinion that it is important to take the necessary interventions to protect children, who have members involved in crime in their families, from criminal behavior.

Although the current study was one of a limited number investigating sociodemographic risk factors for male delinquent children by including a control group, it had some limitations. The study was conducted in a single center consisting of only male participants, and due to the relatively small sample size of the research population, its generalizability was limited. Another limitation of this study was that the cross-sectional and retrospective nature. This cross-sectional design limited the clear elucidation of the predictive effect of sociodemographic characteristics on juvenile delinquency and the identification of causal relationships between sociodemographic characteristics and juvenile delinquency. Therefore, prospective studies with larger numbers of participants and both male and female participants are needed.

CONCLUSION

In conclusion, the results of current study have shown that there is a relationship between juvenile delinquency and sociodemographic characteristics, that juvenile delinquents have more academic problems, that substance use is higher in juvenile delinquents, that the socioeconomic level of families of juvenile delinquents is lower, that the education level of parents of juvenile delinquents is lower, and that there is another individual involved in crime at a higher rate in the families of juvenile delinquents. In addition, it was determined that dropping out of school, low academic achievement, taking disciplinary punishment at school, low socioeconomic level, and the presence of an individual with a history of crime in the family may have a predictive effect on juvenile delinquency. This study showed that the school process has significant effect on juvenile delinquency and suggests that supporting children's school attendance and success may be effective in reducing juvenile delinquency. It has been also demonstrated that it would be beneficial to take necessary measures for families with individuals involved in crime in order to reduce juvenile delinquency.

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