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Parental temperament characteristics of juvenile delinquents

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Abstract

Criminal behavior in children emerges as a result of a complex process. If the criminal behavior is repetitive and preventive interventions are not applied, it can also lead to the emergence of criminal behavior in adulthood. In our study, we aimed to compare the parental temperament characteristics of juvenile delinquents with those of non-offending children of similar age and gender. The study group included parents of 69 juvenile delinquents aged between 12 and 15, while the control group consisted of parents of 73 non-offending children of the same age range. Data was collected using a demographic information form prepared by researchers and the TEMPS-A (Temperament Evaluation of Memphis, Pisa, Paris, San Diego Autoquestionnaire) Temperament Scale. The study group included 37 fathers and 32 mothers, while the control group included 40 fathers and 33 mothers. Parents in the study group had less education than those in the control group, and psychopathology was more common. The study group's parents experienced more legal issues on average. In comparison to the control group, fathers in the study group scored higher for cyclothymic temperament, hyperthymic temperament, and irritable temperament. Compared to the control group, mothers in the study group scored higher on all temperamental variables. The fathers' assessments of their depressive and anxious temperaments did not differ significantly. Fathers in the study group scored higher on the cyclothymic, hyperthymic, and irritable temperament scales. There was a considerable difference in the prevailing temperament type between the groups. Moms in the research group had significantly higher temperament scores than those in the control group.

Keywords: Juvenile delinquent, childhood criminality, temperament

Introduction

Criminal behavior in children is determined by a complex set of processes [1]. Along with committing crimes, various non-criminal behaviors such as running away from home, dropping out of school, and disobedience towards authority figures are often observed [2]. Childhood criminality, due to its occurrence at a young age and its repetitive nature, is considered a significant social issue.

Genetic, environmental, and social risk factors that increase the likelihood of criminal behavior in children have been identified [3,4]. Among these risk factors, genetic factors play a significant role in the emergence and persistence of criminal behavior. Some researchers emphasize that genetic factors are more important than environmental and social factors [5,6]. Within genetic factors, temperament is one factor that can be mentioned. Temperament can be defined as a collection of inherent personal traits that determine an individual's unique behavioral style. Some researchers define temperament as a child's reactions in

interactions with their parents.

In contrast, others believe temperament traits exist from birth and interact with the environment to shape personality in adulthood [7,8]. Several temperament types have been identified, including depressive temperament, cyclothymic temperament, hyperthymic temperament, irritable temperament, and anxious temperament [9]. Hyperthymic temperament is characterized by subthreshold hypomanic symptoms, reduced sleep, irritability, excessive optimism, cheerfulness or elation, impulsivity, extroversion, excessive talkativeness, novelty and stimulus-seeking behavior, and high energy levels. Irritable temperament involves irritability, pessimism, restlessness, excessive complaining, sarcasm, impulsivity, and intense emotional expression. Depressive temperament encompasses subthreshold depressive symptoms, excessive sleep, deep contemplation, anhedonia, and reduced psychomotor energy. Cyclothymic temperament is characterized by early onset, infrequent euphoric mood, frequent short cycles, and abrupt transitions. Anxious temperament is characterized by

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a tendency toward behavioral inhibition, difficulty adapting to daily changes, sleep problems, reactivity, and susceptibility to psychosomatic illnesses [10].

Studies on temperament mostly indicate a genetic inheritance influenced by environmental factors. Thanks to genetic inheritance, parental temperament traits can be observed in children and may play a role in shaping the child's personality traits [11]. The temperament of parents and children can be similar. Studies show that children of anxious mothers with neurotic personality traits also display neurotic personality traits, and there is a relationship between a child's anxious disposition and the mother's anxious temperament [12,13]. There are also studies showing that parental personality and temperament traits have an impact on children's behavior [14,15]. The personality and temperament traits of parents are significant in understanding childhood criminality.

Given this information, it is hypothesized that there are differences in parental temperament traits between juvenile delinquents (JDs) and non-offending children of similar age and gender.

Material and Methods

Our study included a study group of 69 parents of juvenile delinquents (JDs) aged between 12 and 15 years and a control group of 73 parents of children aged between 12 and 15 years with no history of criminal behavior. To minimize the likelihood of explaining criminal behavior based on factors such as socioeconomic status, the two groups were matched in terms of demographic characteristics, and children and parents in both groups were distributed across all socioeconomic strata. Clinical interviews were conducted with the parents who participated in the study, and participants with psychiatric conditions that prevented them from completing the scales used in the study (such as illiteracy, intellectual disability, or severe psychiatric conditions such as exacerbation of psychotic disorders or manic episodes) were excluded from the study. Clinical interviews were conducted with the parents who participated in the study, and participants with psychiatric conditions that prevented them from completing the scales used in the study (such as illiteracy, intellectual disability, or severe psychiatric conditions such as exacerbation of psychotic disorders or manic episodes) were excluded from the study.

Data collection tools

Form for collecting sociodemographic data: This form, developed by the researchers, was used to assess the sociodemographic and clinical characteristics of participants, including age, gender, location of residence, level of education, family income, and usage of cigarettes and other drugs.

TEMPS-A (Temperament Evaluation of Memphis, Pisa, Paris, San Diego Autoquestionnaire) Temperament Scale: Developed by Akiskal et al. [16], the scale consists of 100 questions and five subscales after undergoing Turkish validity and reliability studies [17]. These subscales are depressive, cyclothymic, hyperthymic, irritable, and anxious temperaments. In the Turkish adaptation of the scale, the reliability coefficient of the depressive factor is 0.77, cyclothymic factor is 0.85, hyperthymic factor is 0.80, irritable temperament is 0.82 and anxious factor is 0.84. In the Turkish validity and reliability study of the scale, a temperament type

with a Z score exceeding 2 standard deviations in temperament subtypes was defined as the dominant temperament type. An individual may have one or more dominant temperament types. Conversely, an individual may not have any dominant temperament.

Statistical method

We used IBM SPSS Statistics 22 (IBM Corp., Armonk, NY, USA) for all statistical analysis. The Kolmogorov-Smirnov test was used to assess the data's normal distribution. The mean, standard deviation (SD), number (n), and percentage (%) of descriptive data were displayed, correspondingly. The chi-square, Fisher exact, and Mann-Whitney U tests were used to compare groups. Statistical significance was defined as a p-value 0.05.

Ethical statement

Approval was obtained from the Non-Invasive Ethics Committee of Cumhuriyet University Faculty of Medicine with a letter dated 20.10.2021 and numbered 2021-10/04. The principles of the Helsinki Declaration were taken into consideration for this study.

Results

Socio-demographic characteristics of juvenile delinquents (JDs) and control group children

Among JDs, 84.1% were male (n=58) with a mean age of 13.65 ± 0.77 years, and among children in the control group, 82.2% were male (n=60) with a mean age of 13.37 ± 0.78 . There was no significant difference between the two groups regarding age and gender. Additionally, the two groups were similar in terms of place of residence and income level. However, the "single-parent family" type was significantly more common in JDs compared to the control group (33.3% vs. 8.2%, $p < 0.001$). Furthermore, the rate of domestic violence and family history of crime was significantly higher in JO families ($p < 0.001$). Table 1 displays the sociodemographic traits of children.

Characteristics of the study and control groups in terms of socio-demographics

There was no significant difference between the study and control groups regarding age and maternal employment status ($p > 0.05$). But as compared to the control group, the study group's maternal and paternal education levels were lower ($p = 0.003$ and $p = 0.014$). In comparison to the control group, the study group had a lower rate of dads who were employed in any capacity ($p = 0.002$). When examining psychiatric illnesses in parents, the study group had a greater rate of psychopathology than the control group ($p < 0.001$). Dads in the study group were more likely to engage in problematic alcohol use, alcohol addiction, or social drinking than dads in the control group ($p = 0.003$). Compared to the control group, fathers in the study group were more likely to have experienced legal issues and arrests ($p = 0.001$, $p = 0.006$). Maternal smoking was substantially more prevalent in the study group than in the control group ($p = 0.006$), but alcohol consumption did not differ significantly between the two groups ($p = 0.197$). In both groups, neither of the mothers used drugs. When compared to the control group, moms in the study group had a considerably higher history of criminal behavior when it came to the frequency of legal issues ($p = 0.009$). Table 2 lists the sociodemographic traits of the research and control groups.

Table 1. Socio-demographic characteristics of participating children

		JDs (n=69)	Control (n=73)	p*
Age (Median year (Min-Max))		14 (12-14)	14 (12-14)	0.740
Gender (n, %)	Male	58 (84.1)	60 (82.2)	0.767
	Female	11 (15.9)	13 (17.8)	
Residential area (n, %)	Urban center	43 (62.3)	44 (60.3)	0.803
	District/town/village	26 (37.7)	29 (39.7)	
Family income rate (n, %)	Minimum wage and below	38 (55.1)	43 (58.9)	0.645
	Above minimum wage	31 (44.9)	30 (41.1)	
Family structure (n, %)	Nuclear/extended family	46 (66.7)	67 (91.8)	<0.001
	Single-parent family	23 (33.3)	6 (8.2)	
Presence of domestic violence (n, %)	Yes	37 (53.6)	9 (12.3)	<0.001
	No	32 (46.4)	64 (87.7)	
History of crime/criminal behavior in family (n, %)	Yes	34 (49.3)	3 (4.1)	<0.001
	No	35 (50.7)	70 (95.9)	

*Mann-Whitney analysis and the chi-square test for categorical variables To compare group differences, the U test was utilized for continuous variables. Statistical significance is indicated with Bold type, p<0.05, JDs: juvenile delinquents

Table 2. Socio-demographic characteristics of the study and control groups

		Study group (Fathers) (n=37)	Control group (Fathers) (n=40)	p*
Age (Median year (Min-Max))		48 (40-55)	46 (38-55)	0.576
Education level (n, %)	Primary education	13 (18.8)	4 (5.5)	0.014
	High school and above	56 (81.2)	69 (94.5)	
Employment status (n, %)	Working	47 (68.1)	65 (89.0)	0.002
	Not working	22 (31.9)	8 (11.0)	
Presence of psychiatric disorder (n,%)	Yes	26 (37.7)	6 (8.2)	<0.001
	No	43 (62.3)	67 (91.8)	
Smoking (n, %)	Yes	27 (73.0)	27 (67.5)	0.600
	No	10 (27.0)	13 (32.5)	
Alcohol consumption (n,%)	Harmful use or addiction exists	7 (18.9)	0 (0)	0.003
	Social drinker	9 (24.3)	5 (12.5)	
	Absent	21 (56.8)	35 (87.5)	
Substance use (n, %)	Yes	2 (5.4)	0 (0)	0.136
	No	35 (94.6)	40 (100.0)	
History of legal problems (n,%)	Yes	15 (40.5)	3 (7.5)	0.001
	No	22 (59.5)	37 (92.5)	
History of arrest (n,%)	Yes	9 (24.3)	1 (2.5)	0.006
	No	28 (75.7)	39 (97.5)	
		Study group (Mothers) (n=32)	Control group (Mothers) (n=33)	p*
Age (Median year (Min-Max))		44 (35-52)	43 (36-50)	0.396
Education level (n, %)	Primary education	19 (27.5)	6 (8.2)	0.003
	High school and above	50 (72.5)	67 (91.8)	
Employment status (n, %)	Working	23 (33.3)	21 (28.8)	0.556
	Not working	46 (66.7)	52 (71.2)	
Presence of psychiatric disorder (n,%)	Yes	36 (52.2)	7 (9.6)	<0.001
	No	33 (47.8)	66 (90.4)	
Smoking (n, %)	Yes	15 (46.9)	5 (15.2)	0.006
	No	17 (53.1)	28 (84.8)	
Alcohol consumption (n,%)	Harmful use or addiction exists	0 (0)	0 (0)	0.197
	Social drinker	4 (12.5)	1 (3.0)	
	Absent	28 (87.5)	32 (97.0)	
History of legal problems (n,%)	Yes	6 (18.8)	0 (0)	0.009
	No	26 (81.3)	33 (100.0)	

*Group differences were compared using the chi-square test and Fisher's exact test (where appropriate) for categorical variables, and the Mann-Whitney U test for continuous variables. Bold font indicates statistical significance: p<0.05, JDs: juvenile delinquents

Average temperament scores and distribution of temperament types in parents

The average temperament scores and distribution of temperament types of participating parents are presented in Table 3 and Table 4. There was no discernible difference in the depressive and anxious temperament scores of the study's father participants ($p=0.148$ and $p=0.877$). However, dads in the study group scored considerably higher on the cyclothymic, hyperthymic, and irritable temperament scales than fathers in the control group ($p<0.001$, $p<0.001$, $p<0.001$). The dominant temperament type

significantly differed between the groups ($p=0.013$). The group with this difference included groups where it was impossible to identify the prevailing temperament and the groups where the irritable temperament predominated (Table 3).

Mothers' temperament scores were examined, and it was discovered that all of the study group's mothers' temperament scores were significantly higher than those of the control group ($p<0.001$). The dominant temperament did not significantly differ between the two groups, though ($p=0.120$) (Table 4).

Table 3. Mean temperament scores and temperament type distribution of fathers in the study and control groups

	Study group (Fathers) (n=37)	Control group (Fathers) (n=40)	p*
Depressive temperament (mean±SD)	7.86±1.22	7.60±1.82	0.148
Cyclothymic temperament (mean±SD)	11.51±2.62	6.71±1.79	<0.001
Hyperthymic temperament (mean±SD)	9.38±1.72	5.73±1.34	<0.001
Irritable temperament (mean±SD)	12.95±2.47	8.66±2.84	<0.001
Anxious temperament (mean±SD)	7.65±2.45	7.63±1.97	0.877
Dominant temperament type (n, %)			0.013
Irritable	12 (32.4)	5 (12.5)	
Cyclothymic+irritable	3 (8.1)	0 (0)	
No dominant temperament	22 (59.5)	35 (87.5)	

* The Independent-samples t-test was used to test group differences. Statistical significance is indicated with Bold type: $p<0.05$, JDs: juvenile delinquents

Table 4. Mean temperament scores and temperament type distribution of mothers in the study and control groups

	Study group (Mothers) (n=32)	Control group (Mothers) (n=33)	p*
Depressive temperament (mean±SD)	11.47±1.76	7.88±1.82	<0.001
Cyclothymic temperament (mean±SD)	8.84±2.62	6.88±1.79	<0.001
Hyperthymic temperament (mean±SD)	7.69±1.72	5.70±1.34	<0.001
Irritable temperament (mean±SD)	10.44±1.13	8.24±1.21	<0.001
Anxious temperament (mean±SD)	11.31±1.50	7.78±1.01	<0.001
Dominant temperament type (n, %)			0.120
Depressive	6 (18.8)	2 (6.1)	
No dominant temperament	26 (81.3)	31 (93.9)	

* The Independent-samples t-test was used to test group differences. Statistical significance is indicated with Bold type: $p<0.05$, JDs: juvenile delinquents

Discussion

Our study aimed to address juvenile delinquency, which emerges as a complex process, through parents. We included a group of juvenile delinquents (JDs) and parents of similar age and gender without a history of delinquency in the control group. We compared the socio-demographic characteristics and temperament traits of parents.

Most JDs were males (84.1%), and the single-parent family type and history of domestic violence were significantly higher in the JDs group. It is known that most juvenile delinquents are male and fall within the adolescent age group [18]. The family is individuals' primary area of socialization and is crucial in shaping emotions, thoughts, behavior patterns, and values. Thus, the family's contribution is highly important in developing or

controlling delinquent behavior. Negative behaviors of parents, domestic violence within the family, growing up in a disrupted family, adverse socio-economic conditions, and loss of control over the child create an environment for juvenile delinquency [19]. It is known that delinquent children predominantly come from low-income families with low levels of parental education [20,21]. Studies have shown that criminal individuals within the family significantly increase the risk of juvenile delinquency when both parents are involved in delinquency. Particularly for male children, the father's involvement in criminal activities significantly increases the risk of delinquency [22-24]. Recognizing these risk factors, considering children raised in such families as at-risk for delinquency, and implementing preventive interventions can significantly reduce juvenile delinquency.

In our study, participants' parents were asked to fill out the

TEMPS-A questionnaire to assess their temperament. The cyclothymic, hyperthymic, and irritable temperament scores of fathers in the study group were significantly higher than those in the control group, and there was also a significant difference between the groups in terms of the dominant temperament type. When examining the temperament scores of mothers, it was found that all temperament scores of mothers in the study group were significantly higher than those in the control group. Affective temperament types may not be considered specific psychopathology and may not require treatment, but they can be considered as subclinical variants of psychopathologies. Studies have shown that parental temperament and personality traits impact parenting attitudes, beliefs, practices, and children's behaviors, which affect the family system [14,15].

While numerous studies examine the relationship between child temperament and juvenile delinquency, studies involving parental temperament are comparatively scarce. High neuroticism was found in fathers of children with disruptive behavior disorders, while parents of children with internalizing disorders exhibited excessive protective attitudes, rejecting behaviors, and avoidance of life events [25,26]. In a study investigating the impact of father's temperament, character, parenting style, and psychopathology on the child's temperament, significant relationships were found between negative temperament traits in children and an increase in the father's harm avoidance subscale scores and a decrease in self-directedness subscale scores. The presence of psychopathology in fathers was also related to negative temperament traits in children [27]. Another study examining the relationship between child and parental temperament found that interactions among temperament dimensions were associated with children's high internalizing, externalizing, and attention problems [14]. In a study examining parental temperament traits of children diagnosed with attention-deficit hyperactivity disorder (ADHD), it was found that the father's cyclothymic temperament and the mother's irritable temperament were associated with oppositional defiant disorder (ODD) diagnosis. In contrast, the mother's depressive temperament traits were associated with conduct disorder diagnosis [28]. Particularly in individuals with antisocial traits, the mother-child relationship is an important factor [29]. It is believed that the quality of care provided by parents to the child and how the child perceives it is important, as well as parents' angry and aggressive personality traits [30].

Additionally, parental temperament traits can continuously negatively impact the child's mental health, unlike psychiatric disorders that parents may have [10,31]. Existing research seems to provide insufficient data for a comprehensive understanding of the subject. Therefore, we believe a more comprehensive investigation of parental temperament traits is crucial for understanding juvenile delinquency and detecting mental health issues in children and adolescents. In this regard, our study could be an important guideline for future research.

Our study has some important limitations. First, the data

were collected from a single center, limiting our findings' generalizability. Furthermore, the TEMP-A scale used in our study is based on self-report, and self-report measures are more likely to produce subjective results. Only one parent (the mother or father accompanying the child to the outpatient clinic) was included in the study. The comparison of both parents' temperament traits and the child's observed delinquent behavior could not be conducted.

Conclusion

The fathers' assessments of their depressive and anxious temperaments did not differ significantly. In the study group, fathers scored higher on the cyclothymic, hyperthymic, and irritable temperament scales. There was a considerable difference in the prevailing temperament type between the groups. Moms in the study group had temperament scores across the board that were higher than moms in the control group. There was no distinction in the prevalent temperament type between the two groups. Studies with more significant sample sizes will produce more accurate findings. Furthermore, multicenter trials would make it easier to generalize the results.

Conflict of Interests

The authors declare that there is no conflict of interest in the study.

Financial Disclosure

The authors declare that they have received no financial support for the study.

Ethical Approval

Approval was obtained from the Non-Invasive Ethics Committee of Cumhuriyet University Faculty of Medicine with a letter dated 20.10.2021 and numbered 2021-10/04. The principles of the Helsinki Declaration were taken into consideration for this study.

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