

# Association of Stress and Delinquency in Children and Adolescents

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## ABSTRACT

*The aim of investigation was to assess the impact of subjective stress exposure on delinquent behaviour in children and adolescents. The study included 174 young male delinquents, selected by the method of stratified systematic (random) sample and divided into three age groups of <14, 14–17, and 18–21 years. General data, data on the type of criminal offence, and data on the type of deviant behaviour were collected. A standardised scale of subjective stress was used to allow for comparison of the results obtained in the study with those reported elsewhere. Analysis of variance,  $\chi^2$ -test and factor analysis were used on data processing. A majority of study subjects (55.2%) committed one criminal offence. The criminal offence structure was predominated by proprietary violation (66.7%). Common forms of deviant behaviour included shirking school duties (55.2%), and aggressive behaviour at school (31.0%), in public (29.5%) and in the family (23.6). Parental distrust and punishment (abuse) of the child were identified as the major sources of subjective stress. Youngest subjects significantly differed from other age groups according to their experience of subjective stress described as punishment (abuse) ( $F=22.1389$ ,  $p<0.001$ ). They were considerably more vulnerable to this type of stress than older age groups. These sources of stress were found to positively correlate with the number of criminal offences committed. Among the sources of stress, parents' distrust of the child significantly correlated with commitment of one criminal offence ( $F=2.8618$ ,  $p<0.05$ ), and child's punishment (abuse) with a higher number of criminal offences ( $F=3.1539$ ,  $p<0.05$ ). Criminal activity of children and adolescents is significantly associated with their history of stress exposure over the last two years of life. The higher the stress severity, the greater the rate of delinquency.*

**Key words:** stress, delinquency, children, adolescents

## Introduction

Lazarus' model of stress and coping with stress, based on the interaction between the individual and his/her environment, i.e. objective reality, currently is the best known theory of stress<sup>1,2</sup>. Stress is the result of the individual's awareness of his/her relationship with the environment being disturbed<sup>3</sup>. In this model, stress is defined as a complex of emotional and physical (physiological) reactions which occur when an event is assessed as hazardous or disturbing, i.e. as a complex of mental and physical reactions to the stressor posing requirements that cannot be met. This definition clearly shows that stress involves much more than the mere stressor and the individual response to it. The relationship between the individual and the environment is emphasised, which clearly implies individual differences in the stressor sensitivity threshold. The more so,

the likelihood of the occurrence or deterioration or persistence of a problematic state may be increased by some unfavourable factors<sup>4</sup>. Risk factors relevant to the development of deviant behaviour range from the child's prenatal biological features through familial and wider environmental conditions influencing the child. Thus, risk factors for the occurrence of delinquency, among others, include low intellectual status of the child, disturbed family relations, exposure to a number of stressful and traumatising events during childhood, failure at school, companionship with asocial individuals, and lack of an important adult trustful person<sup>3,5</sup>. Both the presence and prolonged exposure to multiple risk factors lead to a several-fold increase in the likelihood of unfavourable consequences and occurrence of disturbance<sup>6</sup>. Studies have shown that the children and adolescents exhibit-

ing deviant behaviour are more commonly recruited from the families and settings predominated by antisocial values and violence used on problem solving<sup>7</sup>. There is every prospect that the child has adopted the violent/aggressive behavioural patterns while living with those who had once been exposed to aggression and violence in their close environment themselves.

Many stressors have been studied according to their impact on the mental development of children and adolescents. For example, to being mocked at school or disliked by the peer group may be extremely stressful for children and adolescents<sup>1</sup>. A life in a conflicting family where parents fight all the time, traumatising events on leaving home, separation from parents, broken family, reduced educational capacity, and inappropriate accommodation act as strong stressors<sup>3</sup>. The loss of love (a parent or a close friend), mourning, and feeling of separation also have stressful effect<sup>8</sup>.

The response to stress depends on the age, social and emotional development, level of education, intellectual abilities, and relationship with the family and social environment. The role of particular unfavourable impacts varies in different developmental stages of children and adolescents<sup>3</sup>. Erroneous parental assessments are a risk factor for personality development, frequently generating young people with numerous mental problems and disorders instead of healthy young persons<sup>8</sup>. Therefore, some authors investigated the relationship between particular stressors identified as risk factors for juvenile delinquency, e.g., effects of parental criminality<sup>9</sup>, family dysfunction<sup>10</sup>, brain trauma<sup>11</sup>, neglect in childhood<sup>12</sup>, early sexual abuse<sup>13</sup>, self-harming in adolescent drug addicts<sup>14,15</sup>, earliest memories in delinquents<sup>16</sup>, and posttraumatic stress disorder (PTSD) in sentenced and detained adolescents<sup>17</sup>. Sexual, physical and mental abuse of either children<sup>18,19</sup> or adults<sup>20</sup> has been identified as a significant factor, whereas neglect in childhood may lead to considerable mental disturbances<sup>21</sup>. These are only some of most frequently involved and scientifically verified risk factors for the development of delinquent behaviour in children and adolescents. These factors are more commonly detected in the young who develop and exhibit different behavioural deviations.

However, the role of some specific stressors in the generation of delinquent behaviour in this population in Croatia has not yet been elucidated. Therefore, we embarked upon this study to assess the possible impact of particular stress factors on the occurrence of delinquency in children and adolescents in Croatia.

## Subjects and Methods

### *Subjects*

Study population included children and adolescents, offenders who had been prosecuted for criminal offence or whose case had been dismissed. Criminal case records and social service documentation were used as the sources

of data on the study subjects' criminal activity. Study subjects were selected at the Social Care Offices by the method of systematic sample for a particular age group. The systematic sample was collected by arranging the subjects' social documentation in alphabetical order according to age groups, whereby the first subject from each age group was randomly selected. Then every other subject was selected until the completion of the respective age group, each group including an adequate number of subjects for relevant statistical analysis. On choosing the sample size, the real number of delinquents from these age groups in a particular area was not considered. On subject selection, the sample included only three female subjects who were excluded from further analysis due to the small number. The overall sample included 174 subjects. In line with the Act on Juvenile Courts of the Republic of Croatia, group 1 included children below the age of 14 (N=49). Group 2 included 64 minors aged 14–17, and group 3 consisted of 61 young majors aged 18–21. A majority of study subjects, children and adolescents, criminal offenders from urban setting, were from the Zagreb area (73.0%), followed by Split (7.5%), Karlovac (6.3%), Bjelovar (3.4%), and other Croatian towns (9.8%). Total number of the age group delinquents in these towns was not investigated. The study was extended to other towns in addition to Zagreb because of inadequate responsiveness of the subjects from Zagreb. Therefore, the prevalence of subjects in particular towns does not reflect the prevalence of juvenile delinquency in these areas.

### *Methods*

Data collection was performed in the first half of 2000 in the four large social institutions in Croatia, with social worker continuously present as an investigator. Study subjects filled-out the questionnaires in groups of five. Such a procedure allowed for a closer relationship between the subjects and the investigator. Anonymity of the questionnaires was emphasised, and the subjects were asked to answer them frankly. On filling-out the questionnaires, the subjects were free to ask for additional explanation of any particular question. The subjects were previously informed on why they had been called to answer the questionnaires, and the examiner was properly introduced to them. They were told about sharing some mutual experiences, stating that everybody may occasionally find himself/herself in difficult and disturbing life situations, and emphasising that people differ just by the way of approaching and coping with such problems. Then the questionnaires were distributed to the study subjects, informing them that the statements therein referred to the family and living conditions over the past two years.

### *Questionnaires*

The following questionnaires were used in the study: a questionnaire on general data of juvenile delinquents, based on the identification and classification according to age groups, a questionnaire assessing the severity of

juvenile delinquency, showing the number and type of criminal offence and a questionnaire on deviant behaviour manifestations. Data were entered in the questionnaires by the investigator, based on social and medical records. A standardised questionnaire assessing stress, adjusted for this study, contained 26 questions structured so as to reveal the subject's subjective assessment of the presence or absence of the source of subjective stress<sup>22</sup>. Questions from the questionnaire referred to stressors present within the family, school, and peer groups. The subjects were instructed to answer the questions on their first impression, with 'yes' or 'no'. The subjects' answers from the latter questionnaire were processed in two steps.

### Statistics

Nonparametric statistical methods of frequency description (%), and Kruskal-Wallis test (as a method of discriminative analysis based on frequency data) were used on data processing. Of parametric methods, factor analysis and one-way analysis of variance were employed.

## Results

### Criminal offence

According to the frequency of recorded delinquency in overall study sample, most of the study subjects committed one criminal offence (55.2%), followed by those who committed 2–4 criminal offences (30.4%). According to the type of criminal offence, proprietary offences prevailed (66.7%), followed by offences against values protected by international law (18.4%), offences against the life and body (10.3%), and other types of criminal offence.

According to age groups, data on recorded delinquency showed one criminal offence to be most common in all age groups, and to predominate among minors (Table 1).

Data on the prevalence of particular offences revealed those proprietary offences to be the most common type of juvenile delinquency and most prevalent in the youngest age group. The prevalence of criminal offences against values protected by international law (substance use) among young majors showed an increase (Table 2).

### Deviant behaviour

Numerous behavioural disturbances were recorded in all study subjects. The predominant behavioural dis-

**TABLE 1**  
PREVALENCE OF CRIMINAL OFFENCES ACCORDING TO AGE GROUPS

Age group (yrs)	Number of criminal offences			
	1 (%)	2–4 (%)	5–10	>10
<14 (N=49)	19 (39.79)	19 (38.55)	4	6
14–17 (N=64)	40 (62.50)	22 (34.38)	0	1
18–21 (N=61)	37 (60.66)	12 (19.67)	1	0
Total (N=174)	96 (55.17)	53 (30.46)	5	7

turbances were cutting school classes, aggressive behaviour at school, in public and at home, running away from home, and tramping. Determination of statistical significance of difference among particular age groups showed tramping ( $\chi^2=10.51$ ,  $p<0.005$ ), aggressive behaviour in public ( $\chi^2=6.92$ ,  $p<0.031$ ), and aggressive behaviour at school ( $\chi^2=19.16$ ,  $p<0.001$ ) to be most common in the youngest age group. These were followed by marijuana smoking ( $\chi^2=17.21$ ,  $p<0.001$ ) and heroin abuse ( $\chi^2=8.39$ ,  $p<0.015$ ). Substance use was most common among young majors (Table 3).

Factor analysis of a scale of 26 stress sources by the method of major components revealed eight statistically significant sources of subjectively evaluated stress. These were: lack of understanding and conflicts in the family ( $V_1$ ); parental distrust of the child ( $V_2$ ); punishment (abuse) ( $V_3$ ); love crisis ( $V_4$ ); a feeling of not belonging to the family ( $V_5$ ); low family standard of living ( $V_6$ ); problems at school ( $V_7$ ); and generally inappropriate parental relations with their children ( $V_8$ ).

### Effect of stress according to age groups

Analysis of variance was used to analyse the sources of stress according to age groups, in order to determine the relationship between a particular stress factor and age group (Table 4). These results showed significant age differences in subjective experience of stress denoted as child abuse ( $V_3$ ). This variable was most common in the <14 age group ( $F=22.1389$ ,  $p<0.001$ ), which implies that youngest subjects are most vulnerable to parental punishment (abuse).

### Correlation between stress and juvenile delinquency

The relationship of stress and number of criminal offences are presented in Table 5. Results of the analysis of

**TABLE 2**  
TYPES OF CRIMINAL OFFENCE ACCORDING TO AGE GROUPS (YEAR)

Age group (N)	Proprietary (N, %)	Life and body (N)	International law values (N, %)	Other criminal offences (N)
<14 (49)	44 (89.79)	3	0	2
14–17 (64)	42 (65.62)	8	12 (18.75)	2
18–21 (61)	30 (49.18)	7	20 (32.79)	4
Total (174)	116 (66.67)	18	32 (18.42)	8

**TABLE 3**  
PREVALENCE OF DEVIANT BEHAVIOUR PATTERNS ACCORDING TO AGE GROUPS

Deviant behaviour pattern	Age group (year)			$\chi^2$	p
	<14 (N=49)	14–17 (N=64)	18–21 (N=61)		
Running from school	30	38	28	3.30	0.192
Running from home	16	9	15	5.55	0.062
Tramping	19	10	10	10.51	0.005
Aggression in public	21	17	13	6.92	0.031
Aggression at school	27	16	11	19.16	0.001
Aggression in family	9	17	15	1.08	0.579
Alcohol abuse	13	6	10	5.88	0.052
Sniffing	3	4	1	1.87	0.391
Tablet abuse	2	1	0	2.68	0.260
Marijuana use	3	20	25	17.21	0.001
Heroin abuse	0	1	6	8.39	0.015
Other	7	8	3	3.07	0.214

variance showed statistically significant differences in the subjective experience of stress denoted as parental distrust of the child ( $V_2$ ) ( $F=2.8618$ ,  $p=0.025$ ). This variable showed significant correlation with a history of one criminal offence. Significant differences were also observed for punishment (abuse) ( $V_3$ ). The increase in the prevalence of this variable was associated with an increase in the number of criminal offences committed ( $F=3.1539$ ,  $p=0.015$ ).

### Discussion

Analysis of the prevalence of criminal offences showed that one criminal offence was most common in all age groups. Concerning the type of offence, proprietary offences predominated in all age groups, whereas offences

against values protected by international law, i.e. use of opiates, prevailed in older age groups.

Study results showed shirking school duties to be the most common form of unadapted behaviour in the overall sample, whereas running away from home and tramping were less frequently observed. Taken together, this group of deviant behaviour was most common. Aggression stood out as an important feature of asocial behaviour, including aggression at school, in public, and in family. These results are consistent with literature data reporting on aggression as a frequent form of delinquent behaviour in adolescents<sup>23,24</sup>, and especially in those who are not under parental control<sup>25</sup>.

**TABLE 4**  
SIGNIFICANCE OF DIFFERENCES IN STRESS ACCORDING TO AGE GROUPS – ANALYSIS OF VARIANCE

Factorial variable	Age group (year)			p
	<14	14–17	18–21	
$V_1$				0.413
$V_2$				0.333
$V_3$	-0.7203	0.2442	0.3223	0.001
$V_4$				0.429
$V_5$				0.164
$V_6$				0.647
$V_7$				0.183
$V_8$				0.477

$V_1$ =lack of understanding and conflicts in family;  $V_2$ =parental distrust of the child;  $V_3$ =punishment (abuse);  $V_4$ =love crisis;  $V_5$ =feeling of being a family outcast;  $V_6$ =low family living standard;  $V_7$ =failure at school;  $V_8$ =poor parental relationship with the child

**TABLE 5**  
SIGNIFICANCE OF STRESS SOURCES ACCORDING TO PREVALENCE OF DELINQUENCY – ANALYSIS OF VARIANCE

Factorial variable	Mean of factor analysis according to prevalence of delinquency (N)				p
	Number of criminal offences				
	1	2–4	5–10	>10	
$V_1$					0.761
$V_2$	-0.2211	0.2375	0.1964	0.2596	0.025
$V_3$	0.1152	-0.1899	-0.2845	-0.8626	0.015
$V_4$					0.725
$V_5$					0.155
$V_6$					0.349
$V_7$					0.290
$V_8$					0.246

$V_1$ =lack of understanding and conflicts in family;  $V_2$ =parental distrust of the child;  $V_3$ =punishment (abuse);  $V_4$ =love crisis;  $V_5$ =feeling of being a family outcast;  $V_6$ =low family living standard;  $V_7$ =failure at school;  $V_8$ =poor parental relationship with the child

Analysis of particular forms of delinquent behaviour according to age groups showed statistically significant differences for tramping and aggressive behaviour, which was most common in the youngest age group. The prevalence of substance use increased with age and was most common in the oldest age group. Analysis of the prevalence of individual forms of deviant behaviour indicated that these forms were present in some study subjects.

Analysis of 26 subjectively assessed stress variables identified eight most relevant sources including the lack of understanding and conflicts in the family, parental distrust of the child, punishment, love crisis, a feeling of being a family outcast, low living standard of the family, problems at school, and generally poor parental relations with children.

Discriminative analysis of the stress sources according to age groups showed significant age differences in subjective experience of stress described as punishment (abuse), with the youngest age group being most vulnerable. The same analysis pointed to a significant relationship between the number of recorded criminal offences and subjective stress described as parental distrust and punishment. Other stress sources identified as significant showed no significant correlation with the subjects' criminal activities but exerted significant effects on some forms of deviant behaviour, e.g., correlation between stress described as school problems and skipping school classes.

Mean values of factor analysis pointed to an association between the stress experienced in the preceding

two years and criminal activity, i.e. criminal activity correlated with stress sources present in the family. Thus, for example, in the subjects who had committed multiple criminal offences, a significant source of stress was punishment (abuse) ( $F=3,1539$ ,  $p=0,015$ ), whereas the lack of confidence correlated with one criminal offence, i.e. with the beginning of the subject's delinquency ( $F=2,8618$ ,  $p=0,025$ ). Accordingly, family relations oppressed the subjects and indirectly stimulated them to turn to some criminal deed. Besides this, the presence of sociopathologic events in the family, such as punishment (abuse), made a background favouring their adoption of asocial behavioural patterns, including commitment of a number of criminal offences.

The results of the study suggested that the presence of factors related to unfavourable family relations is one of the most significant risks for the development of juvenile delinquency. The presence of sociopathologic phenomena in the family provides a background favouring adoption of asocial or even delinquent behaviour in children. Obviously, the children's criminal activity is closely related to particular stressful events in the family which or that they experienced in the previous two years. Therefore, the measures for prevention of juvenile delinquency should primarily address the family, tending to create a positive interaction within the family. Then, the measures should cover local community institutions (schools, etc.) and invest all efforts to develop social skills and values in the children and adolescents.

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## VEZA IZMEĐU STRESA I DELINKVENCije U DJECE I ADOLESCENATA

### S A Ž E T A K

Cilj istraživanja bio je ispitati utjecaje subjektivnog stresa tijekom života na činjenje kaznenih djela u djece i mladeži. Ispitivanju su podvrgnuta 174 ispitanika muškog spola, počinitelja kaznenih djela, odabranih metodom stratificiranog sistematskog (slučajnog) uzorka, podijeljenih u tri dobne skupine. Prvu čine djeca do 14. godine života, drugu maloljetnici od 14. do 18. godine života, te treću skupinu mlađe punoljetne osobe u dobi od navršene 18. do 21. godine života. U istraživanju su prikupljeni opći podaci o maloljetnim počiniteljima kaznenih djela, potom podaci o intenzitetu delinkventne aktivnosti maloljetnika, kao i oblicima poremećaja u ponašanju. Kako bi se mogla izvršiti usporedba dobivenih rezultata s onima drugih autora u radu je korištena standardizirana skala subjektivnog stresa. U sklopu obrade i analize podataka i značajki ispitanika korišteni su analiza varijance i  $\chi^2$  test, te faktorska analiza. Većina ispitanika počinila je jedno kazneno djelo (55,2%). U strukturi kaznenih djela ističe se kazneno djelo protiv imovine (66,7%). Značajni oblici poremećaja u ponašanju su bježanje od školskih obveza (55,2%), agresivno ponašanje u školi (31,0%), na javnom mjestu (29,5%) i u obitelji (23,6%). Među izvorima subjektivnog stresa značajni su nepovjerenje roditelja prema djetetu, te kažnjavanje (maltretiranje) djece. Najmlađi ispitanici se značajno razlikuju u doživljavanju subjektivnog stresa opisanog kao kažnjavanje (maltretiranje) (F=22,1389; p<0,001). Oni su znatno osjetljiviji na ovaj stres u odnosu na ispitanike starijih dobnih skupina. Utvrđena je i pozitivna povezanost navedenih izvora stresa i brojnosti kaznenih djela. Među izvorima stresa nepovjerenje roditelja prema djetetu značajno je povezano s izvršenjem jednog kaznenog djela (F=2,8618; p<0,05), dok je maltretiranje-kažnjavanje povezano s izvršenjem većeg broja kaznenih djela (F=3,1539; p<0,05). Kriminogena aktivnost djece i maloljetnika značajno je povezana sa stresom doživljenim tijekom zadnje dvije godine života. Što je stres bio jači, to je utvrđena učestalija delinkventna aktivnost.