Journal of Advances and Scholarly Researches in Allied Education

Vol. X, Issue No. XX, October-2015, ISSN 2230-7540

REVIEW ARTICLE

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AN INTERNATIONALLY INDEXED PEER REVIEWED & REFEREED JOURNAL

www.ignited.in

Journal of Advances and Scholarly Researches in Allied Education
Vol. X, Issue No. XX, October-2015, ISSN 2230-7540

An Analysis of Co-relation between Intelligence, Education & Crime

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Abstract – Intelligence is one of the cognitive dimensions of personality. A great number of prior research have found that the criminal population's intellect is lower, particularly in terms of verbal intelligence. The goal of this research is to see if there is a relationship between intellect and criminal conduct, and if so, how it manifests itself. Criminal detainees from the Republic of Srpska's Correctional Institutes and the Court Department of Psychiatry Clinic Sokolac participated in the study, which included murder and non-homicide actions. A test group of 60 convicts who had committed homicide (homicide offenders) and a control group of 60 inmates who had not committed homicide participated in the study (non-homicide offenders). The research was conducted in a controlled, transverse, or cross-sectional fashion. Inmates (homicidal and non-homicidal) had an average IQ of 95.7. Homicide offenders had an IQ of 97.4 while non-homicide inmates had an IQ of 94.09. The intelligence coefficients for non-homicide inmate groupings were as follows: robbery offenders (IQ 96.9), theft perpetrators (IQ 93.83), and other criminal offenders (IQ 93.83). (IQ 92.8). Homicide convicts had a verbal intellectual capacity of 91.22, whereas non-homicide offenders had a verbal intellectual ability of 91.10. In the non-verbal or manipulative section, intellectual abilities were average, but they were higher in the murder inmates group (IQm 103.65) than in the non-homicide inmates group (IQm 103.65). (IQm 97.08). Inmates under investigation (homicide and non-homicide) had lower average intellect than the general community. The verbal component of intellect is lower than normal, but the nonverbal component is average.

Key Words – Analysis, Intelligence, Criminals, Criminal Behavior.

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INTRODUCTION

All the traits of a person, their uniqueness and originality, make each person distinct from the rest of the population. Heredity and environment have a role in shaping a person's personality. [1] A person's character, temperament, intelligence, and physical condition all come together to form their personality. Although intelligence is a fundamentally biological and constitutional capacity, it is also heavily influenced by one's surroundings (by upbringing and education and possibility of flow of information). [2] As a complex ability to assimilate facts, respond logically and manipulate concepts, translate literally to abstract, deal meaningfully and clearly with problems and priorities that are assessed and valued as important in certain situations, the ability to solve new problems and mentally adapt to new roles, this is what it means by "critical thinking." [3] It is described as the ability to learn and put what you've learnt to use. The orbitofrontal and amygdale nuclei of violent offenders with psychopathy have anomalies in their brains, according to NMR research. They also have emotional and cognitive deficiencies. Numerous studies have shown that delinquents have a lower IQ than the rest of society. Even within groups of criminals, we can detect distinct distinctions. Groups of violent criminals tend to have lower IQs. In terms of other cognitive capacities, delinquents are on par with the normal population except in the areas of linguistic ability and abstract reasoning. Convicts with no diagnosis of psychopathy were shown to have a higher overall intelligence coefficient, as well as a higher verbal intelligence coefficient, than those with this diagnostic. [4] Non-psychopaths are more likely to engage in criminal activity at a later age, according to a new study. Low intellect is linked with criminal activity in a variety of ways, including poor school performance and a decreased likelihood of success in life, both of which contribute to delinquent behaviour. In addition to a decline in communication skills that may be utilised to handle a wide range of problems, the frustration that comes with academic failure leads to a decrease in self-esteem and may be a sufficient reason for delinquent behaviour. [5] People with limited linguistic talents find it difficult to adapt to society's moral norms, which might lead to delinquent conduct at some point. Juvenile delinquents were shown to have more severe cognitive impairment than non-delinquents (the lag in language ability) as compared to their peers. We also found that delinquents suffer from depression and obsessive-compulsive disorders. Mentally retarded people are prone to impulsive behaviour, which is exacerbated by their

lack of knowledge of moral principles and the ability to learn from their mistakes.[6] In addition to committing crimes, mentally handicapped individuals are more likely to make false confessions because of their increased suggestibility. The most prevalent types of criminal acts committed by mentally retarded individuals were theft, robbery, and burglary, sexual offences, violent offences, and deliberate arson.[7]

To put it another way, a person's delinquent conduct can be linked to dementia in terms of the harm they do to themselves and others. Demented persons can start fires and harm or murder another person because of their mistaken beliefs of persecution and their emotional instability. [8] As a primary goal of our research, we hope to discover whether IQ and criminal conduct are linked in any meaningful way.[9]

METHODS

Inmates from the Republic of Srpska (KPZ "Tunji- Ci") Banja Luka, the Jail "Kula" of Eastern Sarajevo (Foca prison), and the Court Department of the Psychiatry Clinic Sokolac participated in the study. A total of 105 convicts who committed suicide and 100 inmates who committed non-homicide actions were investigated. 15 convicts who had been convicted of war crimes (war criminals were not included in our study) were eliminated from the sample, as were 30 inmates who had completed psychological examinations erroneously or incompletely. Exclusion from the non-homicidal prisoners group was carried out owing to an overabundance of links between criminal activities and war conditions (12 inmates), as well as incomplete and/or poorly completed psychological assessments (28 inmates). Following these exclusions, a test group of 60 homicide suspects (murderers) and a control group of 60 non-homicide suspects (non-murderers) were constructed. The control group was made up of robbers (N = 22), thieves (N = 18), and other criminals (N = 20). Other crime perpetrators included those who committed illegal drug production and trafficking (N = 7), endangering public transportation (N = 4), rape (N = 3), tax evasion (N = 2), illicit weapon and explosive device production and trade (N = 1), counterfeiting (N = 1), sexual child abuse (N = 1), and fraud (N = 1). The subjects in both the test and control groups agreed to participate in the study on a voluntary basis. The research was conducted in a controlled, longitudinal fashion (cross-sectional study). Intelligence tests, both verbal and nonverbal, were utilised to investigate the problem and to determine the study's objectives. The verbal intelligence test consisted of twenty questions that were answered textually by the participants. Questions were customised to different levels of schooling as well as different scientific domains. The Revised Beta exam, which consisted of six subtests, was used to assess nonverbal or manipulative intelligence. Intelligence coefficients (IQ) were used to indicate the intellectual abilities measured by several intelligence tests:

1. IQ 70 and <- defective intelligence
2. IQ 71-79 – low
3. IQ 80-89 - below average
4. IQ 90-109 – average
5. IQ 110 -119 - above average 6) IQ 120 -128 – high
6. IQ of 129 -> - very high

Statistical analysis

Descriptive statistical approaches were used to analyse the study's findings, including measures of central tendency (mean, median, minimum, maximum), measures of variability (standard deviation), and relative numbers as structural indicators. Significant differences between groups were evaluated using parameter (Student's t-test) and non-parameter (Fisher, Pearson Chi-Square - chi-square test, Mann-Whitney U test, Kolmogorov-Smirnov Z-test) statistical approaches in order to draw meaningful conclusions. Differences between the groups and subgroups of murder and non-homicide convicts were investigated using statistical methods (ANOVA-analysis of variance and LSD-test least significant difference) (subgroup perpetrators of robbery, theft perpetrators subgroup and sub- group of perpetrators of other crimes). The statistical analysis' findings were provided in a tabular format.

RESULTS

The findings of psychological processing of nonverbal and verbal IQ tests of experimental and control groups are given in a spreadsheet with statistical analysis. The intergroup differences test (t-test) reveals a statistically significant difference between the groups on nonverbal intelligence tests T 2, a highly statistically significant difference in nonverbal intelligence test T 4, and a highly statistically significant difference in the overall nonverbal (manipulative) intelligence test-nonverbal intelligence coefficient of homicide inmates (IQm 103.65) and non-homicide inmates (IQm 103.65). (IQm 97.8).

Table 1: Non-verbal tests (T 1 - T 6), verbal intelligence tests - descriptive statistics and intergroup differences test (T-test).

	Descriptive statistical data				T-test			
Test	Group	N	Mean	SD	t	df	P	Mean diff.
T 1 Non verb.	Homicide	60	13.08	2.49	-1.903	118	0.318	-0.5000
	Non homicide	60	12.55	2.05				
T 2 Non verb.	Homicide	60	12.70	2.24	-2.173	118	0.032	-1.050
	Non homicide	60	11.65	3.00				
T3 Non verb.	Homicide	60	9.65	1.96	0.561	118	0.556	0.216
	Non homicide	60	9.87	2.05				
T 4 Non verb.	Homicide	60	10.33	1.99	-3.137	118	0.002	-1.266
	Non homicide	60	9.07	2.41				
T 5 Non verb.	Homicide	60	10.70	2.40	-1.434	118	0.154	-0.683
	Non homicide	60	10.02	2.60				
T 6 Non verb.	Homicide	60	5.35	4.48	-1.744	118	0.084	-1.300
	Non homicide	60	4.05	3.05				
Iqm	Homicide	60	103.65	10.83	-3.191	118	0.002	-6.566
	Non homicide	60	97.08	11.70				
Iqw	Homicide	60	91.22	14.81	-0.043	118	0.966	-0.116
	Non homicide	60	91.10	15.29				

N - number of respondents, the Mean - the mean value, t - value of T-test, df - degree of freedom, P - probability, Mean diff - differences in mean values.

In the T 3, T 5, and T6 nonverbal intelligence tests, as well as the overall IQm (nonverbal or manipulative intelligence), analysis of variance revealed a statistically significant difference between the groups.

Table 2: ANOVA (analysis of variance) - statistical analysis of intergroup, intra group and total variability in verbal and nonverbal intelligence tests.

Test	Variability	Sums of squares	df	Mean square value	F variant quotient	P
Test 1	Intergroup	15.356	3	5.119	0.681	0.565
	Intragroup	871.844	116	7.516		
	Total	887.200	119			
Test 2	Intergroup	90.152	3	30.051	4.532	0.005
	Intragroup	769.173	116	6.631		
	Total	859.325	119			
Test 3	Intergroup	34.241	3	11.414	2.884	0.034
	Intragroup	443.751	116	3.825		
	Total	477992	119			
Test 4	Intergroup	50.131	3	16.710	3.371	0.21
	Intragroup	575.069	116	4.957		
	Total	625.200	119			
Test 5	Intergroup	53.351	3	17.784	2.899	0.049
	Intragroup	764.241	116	6.588		
	Total	817.592	119			
Test 6	Intergroup	115.432	3	38.477	2.347	0.076
	Intragroup	1901.768	116	16.395		
	Total	2017.200	119			
IQm	Intergroup	1503.125	3	501.042	3.932	0.010
	Intragroup	14780.741	116	127.420		
	Total	16283.867	119			
IQw	Intergroup	125.346	3	41.782	0.185	0.907
	Intragroup	26266.646	116	226.457		
	Total	26391.992	119			

Table 3: Structure IQw (verbal intelligence coefficient) for each group of inmates with regard to the type of crime

IQ	Value IQw		Criminal offense				Total
			Robbery	Theft	Other offenses	Murderers	
Verbal Intelligence Quotient IQw	<70	Number	1	2	1	5	9
		%	4.5%	11.1%	5.0%	8.3%	7.5%
	71-79	Number	3	5	4	11	23
		%	13.6%	27.8%	20.0%	18.3%	19.2%
	80-89	Number	4	2	3	8	17
		%	18.2%	11.1%	15.0%	13.3%	14.2%
	90-109	Number	11	7	9	31	58
		%	50.0%	38.9%	45.0%	51.7%	48.3%
	110-119	Number	3	2	2	5	12
		%	13.6%	11.1%	10%	8.3%	10.0%
	120-128	Number	0	0	1	0	1
		%	0%	0%	5.0%	0%	0.83
Total		Number	22	18	20	60	120
		%	100%	100%	100%	100%	100%

as well as high statistically significant difference in the T 2 nonverbal intelligence test. The least significant difference test (LSD test). Multiple intergroup comparisons by the means of least significant difference test(LSD test) showed that there is: a statistically significant difference between subgroups of non-homicide perpetrators of theft and other subgroups of non-homicide perpetrators of crimes, as well as between groups of perpetrators of killings and other subgroups of non-homicide perpetrators of crimes on the T 2 nonverbal intelligence test; statistically significant differences between subgroups of non-homicide perpetrators of robbery and subgroups of non-homicide perpetrators of other crimes, as well as a highly statistically significant difference between subgroups of non-homicide perpetrators of theft and subgroups of non-homicide perpetrators of other crimes in the T 3 nonverbal intelligence test; a statistically significant difference between subgroups of non-homicide robbery perpetrators and a group of killers as well as group of murderers and subgroups of non-homicide perpetrators of theft in T 4 nonverbal intelligence test; a statistically significant difference between subgroups of non-homicide perpetrators of theft and sub- groups of non-homicide perpetrators of other crimes, as well as between groups of murderers and subgroup of non-homicide perpetrators of other crimes in the T 5 nonverbal intelligence test; statistically significant differences between subgroups of non-homicide perpetrators of theft and subgroups of non-homicide perpetrators of other crimes as well as between groups of murderers and subgroups of non-homicide perpetrators of other crimes, and a highly significant difference between the groups of murderers and subgroups of non-homicide perpetrators of other crimes in the T 6 nonverbal intelligence test. In all groups, there was a high percentage of inmates with below-average verbal intellectual abilities: non-homicide robbery offenders 36.3 percent, with 4.5 percent mental defective individuals, non-homicide theft perpetrators 50.00 percent, with as much as 11.1 percent defective persons, non-homicide perpetrators of other offences 40 percent, with 5% defective persons, and murder perpetrators 39.9%. In terms of verbal intelligence coefficient, there were 7.5 percent of mentally deficient inmates on average. There were no statistically significant variations in verbal IQ between groups of convicts based on the type of crime committed, according to the test. In all groups and subgroups, manipulative or nonverbal intellectual talents were greater than verbal ones. According to the Kruskal-Wallis test, there is a statistically significant difference in nonverbal intelligence coefficient between groups of convicts based on the kind of criminal act.

Table 4: Testing the significance of difference in coefficients of verbal intelligence (IQw) between groups of inmates with regard to the type of crime by means of factorial analysis of variance ranks (Kruskal-Wallis test)

IQ	Type of crime	N	Mean rank value	χ^2 - Chi-square	df	P
Verbal Intelligence coefficient IQw	Robbery	22	65.27	1.349	3	0.717
	Theft	18	54.08			
	Other	20	63.28			
	Murderers	60	59.75			
	Total	120				

Table 5: Structure of IQm (non-verbal or manipulative intelligence coefficient) for each group of inmates with regard to the type of crime

IQ - Intelligence coefficient	Value Iqm		Type of crime				Total
			Robbery	Theft	Other	Murderers	
Non verbal Intelligence coefficient IQm	<70	Number	0	0	0	0	0
		%	0%	0%	0%	0%	0%
	71-79	Number	2	3	2	1	8
		%	9.09%	16.66%	10.00%	1.66%	6.66%
	80-89	Number	2	1	5	5	13
		%	9.09%	5.55%	25.00%	8.33%	10.83%
	90-109	Number	15	11	12	32	70
		%	68.18%	61.11%	60.00%	53.33%	58.33%
	110-119	Number	2	2	1	17	22
		%	9.09%	11.11%	5.00%	28.33	18.33%
	120-129	Number	1	1	0	5	7
		%	4.54%	5.55%	0%	8.33%	5.83%
Total		Number	22	18	20	60	120
		%	100%	100%	100%	100%	100%

Table 6: Testing the IQm significance of difference between all groups and sub-groups of inmates using factorial analysis of variance ranks (Kruskal-Wallis test)

IQ	Type of crime	N	Mean ranks value	χ^2 - Chi-Square	df	P
Non verbal or manipulative intelligence coefficient IQm	Robbery	22	55.32	12.944	3	0.005
	Theft	18	54.36			
	Other	20	43.55			
	Murderers	60	69. 89			
	Total	120				

Table 7: Testing the significance of IQm differences between subgroups of non-homicide inmates considering the type of crime committed using Kruskal-Wallis test.

IQ	Type of crime	N	Mean ranks value	χ^2 - Chi-square	df	P
Manipulative or non verbal intelligence coefficient IQm	Robbery	22	32.73	1.869	3	0.393
	Theft	18	31.92			
	Other	20	24.78			
	Total	60				
	Total	120				

DISCUSSION

The average overall intelligence number among all analysed convicts (homicide and non-homicide) was IQ 95.7, indicating a modest average variation. Homicide offenders had an IQ of 97.4 while non-homicidal inmates had an IQ of 94.09. Subgroups of non-homicide convicts had the following intelligence coefficients: robbery offenders (IQ 95.4), theft perpetrators (IQ 93.83), and other criminal offender's subgroups (IQ 93.83). (IQ 92.8). According to these findings, non-homicide theft offenders and perpetrators of other crimes had the greatest drop in total intellectual capacity, which might be attributed to the easier identification of the crimes committed and the inmates' reduced ability to disguise the crime. It was clear that nonverbal or manipulative intelligence was average, but it was greater in homicide convicts (IQm 103.65) than in non-homicide inmates (IQm 97.08) - perpetrators of robbery (IQm 98.22), theft (IQm 98.61), and other criminal activities (IQm 94.45). The convicts' average IQm was 100. Simultaneously, verbal intellectual ability (IQw) was lower than the national average and was below the national average (homicide inmates had 91.22 IQw and non-homicide inmates had 91.10), which is consistent with previous research showing that violent offenders have lower verbal intellectual abilities than the general population. The substantial number of offenders with below-average verbal intellectual ability (40-50 percent) was particularly noticeable. Because of the significant number of convicts with below-average verbal intellectual skills, the profile of verbal intelligence coefficient revealed poorer verbal intellectual abilities than the general population. This was most noticeable in the subgroup of theft perpetrators, with 50% having a below-average verbal intelligence coefficient, followed by a subgroup of non-homicide perpetrators of other crimes with 40%, homicide inmates with 39.9%, and non-homicide perpetrators of robbery with 36.3 percent having a below-average verbal intelligence coefficient. In addition, five (8.33 percent) of murder convicts had a verbal intelligence coefficient on the level of deficient intelligence, whereas four (6.66 percent) of non-homicide inmates had the same verbal intellectual talents. The profile of non-verbal or manipulative intelligence coefficient was performed within groups of inmates based on the type of crime, and it revealed that non-verbal or manipulative abilities were larger than verbal abilities in all groups, i.e., there were fewer inmates with below-average nonverbal intellectual coefficient - homicide inmates 17.49 percent, non-homicide robbery offenders subgroup 18.18 percent, non-homicide theft perpetrators subgroup 18.18 percent. At the same time, it was discovered that 13.6 percent of robbery perpetrators, 16.6% of theft perpetrators, 5% of other crimes perpetrators, and 36% of homicide perpetrators had above average nonverbal or manipulative intelligence coefficients. Lower verbal intellectual abilities may be related to a lack of education, but they may also exist before coming to school and be the consequence of a neurophysiologic impairment, according to the research. Reduced intellectual capacity, particularly verbal intelligence, can have a substantial influence on convicts' development of delinquent characteristics. People with lower intellect do poorly in school, and people who fail in school are less likely to succeed in life, thus they are more prone to engage in delinquent conduct. Failure in school may cause a lot of frustration, which can lead to aggressiveness and criminal conduct. In numerous social contexts, people with poor verbal communication skills are weak and bewildered, which can contribute to the development of criminal conduct. People with inadequate language talents have a hard time adopting ethical standards and resort to asocial or even criminal behaviour. The capacity to correlate prospective reactions with probable consequences relies heavily on verbal abilities in behaviour management. Poor scholastic performance and a poor educational level, as well as weaker language abilities, have been linked to asocial-psychopathic characteristics seen in homicide convicts, according to studies. Better performance on the nonverbal or manipulative parts of the test suggests that some forms of delinquency need competence.

CONCLUSION

Inmates under investigation (both murder and non-homicide) had lower average intellect than the general community. The intellect of murder inmates was found to be marginally higher than that of non-homicide inmates. In the linguistic or manipulating section, intellectual abilities were average, although they were more prominent in the murder group than in the non-homicide group. Both groups had poorer verbal intellectual ability than the overall population, and they were in the lower boundary range.

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