AN EXAMINATION OF THE INCIDENCE OF GIFTEDNESS AMONG YOUNG OFFENDERS

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An Examination of the Incidence of Giftedness Among Young Offenders

by
© Brian Miller, B.A.

A thesis submitted in partial fulfillment
of the requirements for the degree of
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Abstract

During the first half of this century it was generally accepted that anti-social youth were significantly under represented among gifted individuals. Since the 1950's, the definition of giftedness has gradually broadened to include specific areas of human ability other than general intelligence. Recently, a few investigators have presented evidence supporting the hypothesis that gifted individuals are over-represented in a juvenile delinquent population. For the purpose of clarifying the contradictory evidence about the representation of gifted persons among delinquent youth, this study examined three types of giftedness in a sample of young male offenders, namely intelligence, academic achievement, and creativity. The results suggest that the representations of gifted persons among young male offenders depends upon the type of giftedness chosen to determine the incidence level.

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CHAPTER I

INTRODUCTION

This study attempts to determine the incidences of giftedness among delinquent youth when that construct is operationalized as measures of intelligence, academic ability, and creativity. Intelligence is defined as a global entity, the overall capacity that an individual has for interacting effectively with his/her environment. This concept of global intelligence has been developed by Wechsler (1958, 1971, 1984) and, similar to Guilford's (1967) model of intelligence, claims that many specific abilities interact to produce the overall capacity to understand and behave effectively in the world. Academic ability is defined as the individual's ability to perform the various tasks required by secondary school curricula. Torrance's (1974) definition of creative thinking as a process of becoming aware of problems, gaps in knowledge, missing elements, and so on; then identifying the difficulty and searching for solutions by making guesses or formulating and testing hypotheses, is accepted as the definition of creativity for this study. The delinquent youth studied are adjudicated young offenders as defined by the Young Offenders Act (Heather, 1983). The Act defines them as young people between the ages of 12 and 17 years who have been convicted of offences against the Criminal Code (Heather, 1983).

The current literature indicates that the extent and nature of exceptional abilities among delinquents has not been clearly established. This is most evident in the area of intelligence where the most extensive investigation has been done. Lane and Witty (1935) found only 0.3 percent of delinquent boys to have an IQ greater than 120, whereas King and Fularczyk (1981) reported that 20 percent of their sample of boys who had been in trouble with the law had an IQ greater than 120. Such a discrepancy indicates the need for further research to help determine the incidence of high intelligence among anti-social youth.

Similarly, in the area of specific academic ability it is generally accepted that delinquents are less able than their non-delinquent peers, although there is some evidence to indicate that some delinquent youth may do very well academically (Glueck & Glueck, 1950; West & Farrington, 1973). Aside from such indications there has been no research directed at determining the specific academic strengths of anti-social youth. On the other hand, research efforts have yielded support for the commonly accepted notion that delinquents are less able academically (Glueck & Glueck, 1950; Reilly & Bullock, 1979).

There has been very little research examining the creative ability of delinquent youth. This is somewhat surprising when one considers that a delinquent act is in some ways creative, since it requires a breaking away from the ordinary,

accepted way of doing things. Some researchers have suggested that delinquency may result from frustrated creativity (Jensen, 1975; Torrance, 1962). However, there has not been enough research to support or refute any position with regard to the creative abilities of delinquents.

In order to develop more effective education and rehabilitation programs for young offenders it is necessary to determine their strengths and abilities. Generally, there has been more of a tendency to identify weaknesses, rather than strengths in this group. If we are to help them develop positively, we need to establish areas of ability where they are likely to succeed, not areas of disability where failure is inevitable. The unclear picture of the exceptional abilities of anti-social youth left by the inconsistent and limited research needs to be further clarified, this study is an attempt to assist in this clarification.

CHAPTER 2

REVIEW OF LITERATURE

This review of the literature will consider the development of the giftedness concept and examine the extent to which delinquent youth have been identified as gifted.

Giftedness

When Louis M. Terman began his monumental piece of research on giftedness in 1921, a gifted individual was considered to be one with exceptionally-high intellectual ability as indicated by a score on a test of intelligence. Terman (1925) described as gifted any person who attained an IQ of at least 130. The instrument Terman used to identify his gifted sample, the Stanford-Binet, was a revision of Binet and Simon's (1914) original developmental scale which was designed as a measure of general intelligence. This method of defining giftedness in terms of exceptionally-high general intelligence remained popular until recent years even though the basis for an expanded definition was established relatively early by Thurstone (1938). Binet himself acknowledged that full intellectual competency is the result of the combination of many specific mental processes (Khatena, 1982).

In 1938 L.L. Thurstone discovered 13 primary mental

abilities when he did a factor analysis of the results of 56 psychological tests. Seven of these primary mental abilities Thurstone considered significant, two he gave tentative labels, and four were considered residual factors. The more significant factors he labeled spatial, perceptual, numerical, verbal, word fluency, memory, and induction. This was the first step toward the establishment of a multivariate model of intelligence in which the intellect could be considered to be composed of a number of separate mental processes. This was also the first step toward a broadened conception of giftedness.

Based on the factor analytic approach to defining intelligence, Guilford (1967) developed the structure-of-intellect (SI) model of intelligence. This model is set up in a three dimensional form and is based on the interaction of three components; content, operation, and product. A very simplified description of how Guilford's SI model explains the function of the intellect is as follows: an <u>operation</u> is performed on <u>content</u> and <u>product</u> is the result. In the SI model there are 4 categories of content (figural, symbolic, semantic, behavioral), 5 categories of operation (evaluation, convergent production, divergent production, memory, cognition), and 6 categories of product (units, classes, relations, systems, transformations, implications). The interaction of these categories creates the potential for 120 distinct mental abilities.

When considering the implications of the SI model, with regard to giftedness, one must conclude that, unlike Terman's (1925) contention that an individual is gifted if s/he has an exceptionally high IQ score, an individual may be gifted in any of 120 ability areas. Thus, there are three methods of defining giftedness, one which considers only general intelligence as measured by most intelligence tests such as the Stanford-Binet and the Wechsler scales, one which considers many specific areas for potential gifted ability, and one which combines the two previous approaches and acknowledges that a person may be gifted in general intelligence and/or any of a number of specific areas of human endeavour and mental ability.

The definition of giftedness that has had the greatest influence on research and practice in recent years is the United States Office of Education (USOE) definition (Marland, 1972). It states that a gifted individual is one who demonstrates exceptionally high performance, or the potential for exceptionally high performance in any of the 6 following categories:

- general intellectual ability
- specific academic aptitude
- creative and productive thinking
- leadership ability
- visual and performing arts
- psychomotor ability

Identification of the potential for exceptional ability and the judging of exceptional performance must be done by qualified persons.

The USOE definition is considered to be a significant step forward for the study of giftedness (Gallagher, 1975; Khatena, 1982). It signified official recognition that there are many areas of intellectual involvement, other than general intelligence, in which an individual may have exceptional ability.

Renzulli (1979) found some problems with the USOE definition of giftedness, claiming that the categories are 'non-parallel'. Some, like intellectual ability, refer to processes. Others, like visual and performing arts, refer to product, or actual performance that results from mental processes. Renzulli also pointed out that motivational and drive factors are not considered in the definition. He offers a new definition that describes giftedness as an interaction among three factors; (1) above average ability, (2) a high level of task commitment, and (3) a high level of creativity. Although this definition appears to be sound theoretically it does not lend itself easily to the establishment of gifted abilities before the interaction among the factors occurs and the exceptional product is actually produced. According to Renzulli, giftedness can only be identified in terms of exceptional performance in a particular area of human activity. Other measures of

giftedness must be considered measures of potential for exceptional behaviour.

For the purpose of the present study, the USOE definition of giftedness will be used with the exclusion of the categories of leadership ability, visual and performing arts, and psychomotor ability. Giftedness will be defined as exceptionally high performance or the potential for exceptionally high performance, as determined by qualified individuals, in any of the three remaining domains of giftedness: general intellectual ability, specific academic aptitude, and creative and productive thinking. Leadership ability, visual and performing arts ability, and psychomotor ability are areas that have many measurement difficulties (Khatena, 1982); consequently, it was decided to not include them in this study.

Giftedness and Delinquency

In recent years there has been a realization and acknowledgement that persons who have exceptional abilities are valuable 'natural' resources. These are the people who are most likely to discover the solutions to problems; such as, impending war, resource depletion, pollution, and others that threaten our survival. If we are to continue to exist we cannot afford to miss an opportunity to aid an individual to optimally develop his/her exceptional ability. For this reason, it is extremely important that an awareness

of the exceptional abilities of our youth, including our anti-social youth, be developed with a view to nurturing their development, preventing problems associated with giftedness, and helping them remedy their problems.

Notwithstanding some questions about the validity of his later research, Burt's (1927) treatise on delinquency documented the case of a "supernormal" delinquent youth. This boy attained an IQ score of 135 on the Binet tests, and demonstrated superior academic achievement. Burt also discussed anti-social youth who had exceptionally strong abilities in specific performance areas, such as motor ability, language facility, and mental imagery. Burt's early observations give rise to questions of how prevalent giftedness is among delinquents and in what areas they may have exceptional abilities. Although there has been some research directed at this question (Harvey & Seeley, 1984; Mahoney, 1980) more is needed to provide adequate answers to concerns being expressed about bright, capable, young people coming into conflict with the law, (Jensen, 1975; King, 1981; Parker, 1979).

Mahoney (1980) found, after reviewing the literature, that there is a lack of information on gifted delinquents, we do not know their prevalence or the areas in which they are gifted. Harvey and Seeley (1984) conclude that there are gifted individuals in the population of anti-social youth but could not draw any conclusions regarding the

incidences of giftedness. Both Jensen (1975) and Parker (1979) claim that many bright, creative young people turn to illegal activity after experiencing failure in school and becoming frustrated in attempting to meet their needs in socially approved ways. King (1981) found that a sample of bright delinquent children perceived significantly less parental support than did two control groups.

When reviewing the literature on delinquency and giftedness one must also give consideration to the fact that probably not all gifted adolescents who commit criminal acts get caught. This is a limitation on any research in this area since by definition a gifted delinquent could avoid detection by the authorities.

Delinquency and Intelligence

In recent years there have been three reviews of the literature on the study of delinquency and intelligence (Gath & Tennent, 1972; Hirschi & Hindelang, 1977; Mahoney, 1980). As Gath and Tennent (1972) point out, it has taken some time for the delinquent with superior intellectual ability to attract attention. There are two reasons for this, one is that there is a relatively small number of exceptionally bright individuals in any population, which makes them hard to detect unless one is specifically looking for them. The second reason is the pervasiveness of the Lombrosian belief that mental and moral deficits

were closely associated with delinquent and anti-social behaviour. This attitude toward delinquents as a group was supported by the early research that examined their general intelligence. Early researchers concluded that the major factor underlying criminal activity was low intelligence, (Goddard, 1914; Goring, 1913).

Interestingly, Caplan and Siebert (1964), in a study of the distribution of intelligence in the delinquents who appeared before the Cuyahoga County Juvenile Court during a thirty-four year period, show that their mean IQ score was 80 between 1929-1934 and that it increased to 92.1 between 1957-1962. They concluded that this increase was mainly due to improvements in the methods of testing intelligence and partly due to actual increases in the intellectual ability of the delinquent group. Merrill (1947), in an examination of 300 delinquents and 300 controls on the Stanford-Binet, found no significant difference between the IQs of each group; their mean IQs were 86.7 and 89.3 respectively. Eilenberg (1961), in a study of 244 randomly selected individuals who were admitted to the Stanford House Remand Home in London during 1955, found a distribution of intelligence test scores among delinquents that was similar to a normal distribution. According to the Stanford-Binet or the Wechsler-Bellevue for Children, 39.2 percent of his sample had an IQ of at least 101, with 8.9 percent attaining an IQ of at least 117.

A survey of institutions in Michigan, conducted by Haarer (1966), included 665 institutionalized delinquent boys who were assessed mainly with the appropriate form of the Wechsler scale, indicated that 4.4 percent had an IQ of 120 or more. This finding does not differ from data reported by Brooks (1972) on the IQs of boys who entered training schools in London during the period 1956 through 1961. According to Brooks, the statistics of the British Department of Health and Social Security show that during this six year period 4.4 percent of the boys had an IQ greater than 120.

After their review of the literature, Gath and Tennent (1972) concluded that individuals with high intelligence are not as highly represented in the delinquent population as they are in the non-delinquent population. They cite several studies to support this conclusion (Eilenberg, 1961; Gath, Tennent & Pidduck, 1970; Gibbens, 1963; Haarer, 1966; Lane & Witty, 1935; Marcus, 1956; McCord & McCord, 1959; Merrill, 1947; Murchison, 1926). Gath, Tennent and Pidduck (1970) found that during the period May to November 1967, 7.8 percent of the boys referred to the London Remand Home for psychiatric assessment had an IQ of 115 or more. This is less than the number that would be expected on the basis of a normal distribution, wherein 16.5 percent would receive a score of 115 or above; however, only boys referred for psychiatric assessment were included in this

sample.

Hirschi and Hindelang (1977) sharply criticize theoreticians in the area of juvenile delinquency for ignoring research that has indicated a high inverse correlation between IQ and delinquency. According to Hirschi and Hindelang (1977), the people who write the textbooks on crime and delinquency contend that delinquents do not differ from the normal population in intelligence, and this position is based on moral rather than scientific grounds. The research reviewed by these investigators does indicate that IQ is inversely related to delinquency (Hirschi, 1969; McCord & McCord, 1959; Reiss & Rhodes, 1961). They point out that low IQ is as good a predictor of delinquency as is low socio-economic status.

Support for Hirschi and Hindelang's contention that there is a causal link between low IQ and delinquency has been reported by several investigators (Moffitt, Gabrielli, Mednick & Schulsinger, 1981; Wolfgang, Figlio & Sellin, 1972). Wolfgang et al. (1972) looked at the IQ of 8,700 boys as measured by the Philadelphia Verbal Ability Test. They found a significant difference in IQ between chronic offenders and non-offenders who were matched in terms of their socio-economic status and race. Differences ranged from nine points for upper class non-whites, where the chronic offenders had a mean IQ of 91 and the non-delinquents had a mean IQ of 100, to fourteen points for lower class

whites, where chronic offenders had a mean IQ 93 and the non-delinquents had a mean IQ of 107.

Moffitt et al. (1981) reviewed two Danish longitudinal studies which showed low IQ scores were related to delinquency regardless of socio-economic status; thus, lending support to the thesis that limited intellectual ability may be a contributing factor to delinquency.

Further evidence for the postulated inverse relationship between intelligence and delinquency is presented by West and Farrington (1973). They studied 411 boys aged 8 to 18 years over a ten year period, then compared the one-fifth of the sample that became delinquent with the four-fifths that did not. Intelligence, as determined by the Raven's Progressive Matrices, was reported to be a significant predictive factor in the occurrence of delinquency among this group. This is due to the fact that 20.4 percent of the boys with IQ scores below 90 were recidivists, whereas only 2.0 percent of those with an IQ above 110 committed more than one offence. West and Farrington (1973) also point out that in their sample delinquents were significantly 'over-represented' among the least intelligent subjects, and significantly 'under-represented' among the most intelligent subjects. Of the 102 boys with an IQ greater than 110, only 12.8 percent had police contact. In contrast, 31.1 percent of the 103 boys with an IQ below 91 reported having had contact with police.

More recently there has been research which prompts a review of the evidence concerning the frequency of high intelligence among delinquents. Mausner (1979), as cited by Seeley and Mahoney (1980), reported that from a group of 285 particularly troublesome youths referred for assessment by the Arapahoe County Court, Colorado, 3 percent obtained a Wechsler IQ above 120, and another 18 percent scored in the superior range on at least one of the subtests.

In a study of the relationship between delinquency and such factors as self concept, giftedness, and perceived parental support, King and Fularczyk (1981) found that in a group of 20 sixth, seventh and eighth grade children who had been in trouble with the law, six, or 30 percent, had an IQ above 120 as measured by the Otis-Lennon Mental Abilities Test.

Mahoney (1980) and Seeley and Mahoney (1980) claim that little knowledge has been gained about the gifted delinquent because the focus of research has been on general intelligence as measured by this or that test. They suggest that the investigation of exceptional delinquents should take a broader approach and should include a wider range of ability. This research direction would be more in line with the multifactor model of intelligence (Guilford, 1967; Thurstone, 1938) and the broadening definition of giftedness (Khatena, 1982; Marland, 1972). Mahoney (1980) argues that estimates of giftedness based on IQ alone may

not be accurate due to other abilities not being measured.

It is generally accepted that general intelligence as measured by any test is not a sufficient indicator of giftedness. Many gifted individuals are missed by such a procedure (Khatena, 1982; Marland, 1972; Renzulli, 1979). To discover those with certain specific abilities, other than general intelligence, it is important to test specific abilities, and to analyze general measures closely for specific ability contributions to the general ability score.

Another difficulty with the assessment of intelligence in anti-social youth is the widely acknowledged effects of anxiety level, mood, deprivation, and environment on intelligence test scores. Problems with acquiring accurate and reliable test results when one deviates very far from the norm sample characteristics of a standardized instrument are commonly known. Brooks (1980) refers to difficulties with underscoring on tests in situations of emotional strain and environmental pressure. He questions whether an individual who is examined in a situation of detention, which may be interpreted as being hostile and punitive, is in a position to understand fully and respond in the manner required for the testing process.

Pringle (1970) has shown in her work with children with behavioral problems that a child's emotional state may have a great effect on test scores. She found that 28 percent of 468 children referred to her clinic because of

school problems had an IQ of 120 or more, while the majority of them had been described by their schools as average or below average.

Mahoney (1980) concludes that although available research indicates that bright individuals are less likely to appear in the delinquent population than they are in the general population, there is a general shortage of specific information about this particular group.

Also relevant to this study is the evidence indicating that on tests of intelligence, delinquent youth perform better on perceptual-motor tasks than they do on verbal tasks, (Lutey, 1977; Prentice & Kelly, 1963; Wechsler, 1958; West & Farrington, 1973). Lutey (1977) considered a number of studies involving over 8,000 delinquent subjects examined by the Wechsler Intelligence Scales. In 74 of 85 of these samples, delinquents scored higher on the Performance (P) than the Verbal (V) sections of the tests. In seven of the remaining eleven samples, factors other than delinquency were involved that could explain the deviation from the P > V pattern.

Rather than indicating a real weakness in verbal skill among delinquents, their relatively poor performance on verbal tasks can be interpreted as the result of poor educational backgrounds or a failure to utilize their abilities in the school environment. As early as 1956 researchers were suggesting that the P > V pattern in

delinquents might be caused by poor school achievement or the lack of ability to use school-related tasks rather than a deficit in intellectual ability (Richardson & Sorko, 1956). Prentice and Kelly (1963) interpret the P > V pattern among delinquents in this way and suggest that the "true" intelligence of delinquents is not different from that of the general population.

Delinquency and Specific Academic Ability

It is widely accepted that delinquents perform below their age and grade level equivalents academically. In this section the studies cited examined academic ability in terms of achievement in secondary public school curricula.

In a classic piece of research on juvenile delinquency, Glueck and Glueck (1950) compared a group of 500 delinquent boys with a matched group of 500 non-delinquent boys, and found that 63.6 percent of the delinquent group were two or more years behind the grade level appropriate for their age, as compared with 29.4 percent of the non-delinquent group. This compares well with the delinquents in Eilenberg's (1961) sample who were educated after the Second World War. Of this group Eilenberg found 66.6 percent to be two or more years below the grade expected for their age.

After analyzing 188 case studies of adjudicated adolescents who were administered the Wide Range Achievement Test and the appropriate Wechsler Intelligence Scale,

Reilly and Bullock (1979) concluded that adolescents involved in the justice system function lower academically than do their non-delinquent peers.

There is a considerable amount of literature and research which indicates a high correlation between delinquency and learning disability (McKay & Brumback, 1980; Paremba, 1975; Swanstrom, Randle & Offord, 1981; Zinkus & Gottlieb, 1978). This association may partially explain why underachievment is an attribute commonly associated with delinquency. Swanstrom, Randle and Offord (1981) found that there were 3.5 times more learning disabled individuals in the juvenile delinquent population than there were in the seventh-grade population.

According to McKay and Brumback (1980), estimates of the prevalence of learning disabilities among delinquents varies from 22 to 90 percent among the various research studies. Paremba (1975) describes the typical U.S. delinquent as being 13.5 years old with an IQ of 95 (within the average range) and functioning 3 to 5 years below the expected grade placement for his age.

As Mahoney (1980) points out, gifted individuals may have a learning disability and as a result may be missed by testing procedures that are either done in a group setting, or are based on a composite general score rather than a task specific score.

Some evidence does exist to indicate that some anti-

social youth do perform well academically. Although the findings of Glueck and Glueck (1950) show generally poor performance on the part of delinquents, the number of non-delinquents to reach grade ten or higher was only 1.0 percent more than the number of delinquents to do so. There were 30 delinquents who made it to grade 10 or beyond. Also, Glueck and Glueck (1950) found only 1.0 percent of both groups to have excellent achievement, as defined by a straight "A" record in the last year of school. West and Farrington (1973) also found that a substantial number of delinquents perform well academically. Of the 84 delinquents they found in the sample of boys they studied 22, or 26.2 percent, attained the high or high average category of educational achievement. The high category of achievement was defined as entrance to grammar schools or the top streams of comprehensive schools (6 delinquents reached this level). High average was defined as enrollment in the second stream of comprehensive schools or the top streams of secondary modern schools (16 delinquents reached this level).

As might be expected there is research that has shown the delinquents who do well academically are those with higher IQs. In their comparison of 100 average IQ (90-109), and 100 superior IQ (120+) first offenders, Caplan and Powell (1964) found the grade point average of the superior IQ group to be significantly higher than that of the average

IQ group. They also found that 14 of the superior group and none of the average group were one year advanced in their grade placement, and that 26 of the average group, as opposed to 3 of the superior group, were 2, or more, years behind in their school placement. Caplan and Powell use a questionable rationale to suggest on the basis of the results that the superior IQ delinquent may be an overachiever, and the average IQ delinquent may be an underachiever.

Gath, Tennent, and Pidduck (1970) also present findings to indicate that the delinquents who perform best academically are those who score high on tests of intelligence. They found their high IQ groups to be good readers who were interested in school and interested in taking public examinations.

There appears to be no research that has been directly aimed at establishing the incidence of delinquents who are gifted in specific academic aptitude. Although research indicates that this group generally performs poorly academically, there is a need to determine the strengths among delinquents in this area.

Delinquency and Creativity

If any IQ test is used alone to determine giftedness, Torrance (1962) claims that 70 percent of our highly creative children would not be detected.

Although extensive study has been done in the area of creativity by researchers like Jacob Getzels, J.P. Guilford, Philip Jackson, Joe Khatena, Nathan Kogan, Paul Torrance and Michael Wallach, the incidence and the nature of creativity among anti-social youth has not been determined.

Torrance (1962) and Jensen (1975) expressed some concern over the likelihood that youth who have their creative potential frustrated in some way will manifest behaviour problems as a result. Torrance (1962) maintains that there is a considerable amount of personal discomfort associated with being creative, causing some individuals to repress their abilities. This discomfort arises from the individual being a one-person minority, advocating new thoughts and ideas in a society that generally resists change. If the creative individual is not able to deal successfully with the difficulties associated with having this particular ability, s/he may develop various behaviour problems.

Jensen (1975) cites research which supports his contention that the creative and the delinquent personality are similar. He draws a parallel between the delinquent and the creative individual, suggesting that the anti-social behaviour of the delinquent may be a misguided attempt at creative self-expression resulting from not being encouraged or recognized for more pro-social attempts.

On the basis of such thinking as that of Torrance (1962)

and Jensen (1975), one might expect to find a relatively large number of highly creative individuals in the delinquent population. To date, only two studies have directly approached the issue of determining the extent of creative thinking among juvenile delinquents.

Kuo (1967) used the Minnesota Tests of Creative Thinking to compare the creative thinking of a group of 30 delinquent boys, from the Children's Center of Washington, D.C., with that of 30 non-delinquent boys. His results showed that non-delinquents scored higher than did delinquents except on the fluency subscore, for which there was no significant difference between the two groups.

Anderson and Stoffer (1979) used the Torrance Tests of Creative Thinking to examine the creative thinking of 32 delinquent boys on parole, and 32 non-delinquent boys. They found, as did Kuo (1967), the non-delinquents scored higher on all measures of verbal creativity. However, they found no significant difference between the two groups on the measure of figural creativity, with the delinquent group scoring significantly higher on figural fluency.

Recent Research

For this investigation, the most significant pieces of recent research considering gifted delinquents are those by Harvey (1981) and Harvey and Seeley (1984).

Harvey (1981) developed a theoretical model to explain the interrelatedness of intelligence, creativity and achievement among gifted delinquents. He selected his sample of 30 gifted delinquents by administering (1) the age appropriate Wechsler scale, (2) the Torrance Tests of Creative Thinking, and (3) the Wide Range Achievement Test to those who appeared to be potentially gifted among the youth who entered the Arapahoe County (Colorado) Juvenile Justice System during the data collection period. Any youth who scored in the top 5 percent on any one of these measures was considered gifted. Approximately 5.1 percent of the 585 youth eligible were gifted according to this criterion.

Harvey and Seeley (1984) carried out a similar procedure in which 48 of 700 eligible youth, or 6.1 percent, were determined to be gifted on at least one of the same three instruments.

These studies are significant in that they appear to be the first to consider giftedness among delinquents using a broad approach; whereby, more than one ability area is measured. In both these studies, however, it is possible that the number of gifted youth detected is an under-

representation of the actual number since a screening process was used in their selection. Potential subjects were screened with the Block Design and Similarities subtests from the Wechsler Intelligence Scale for Children-Revised, the unusual uses and lines activities from the Torrance Tests of Creative Thinking, and a questionnaire designed to identify talent in extra-curricular activities. This screening process may have caused some gifted individuals to be missed, and others may have gone undetected for other reasons; such as, refusal to cooperate in the study, or being otherwise unavailable.

Summary

It appears from the present review of the literature that regarding the abilities of delinquent youth, we have come from the generally accepted view, at the beginning of the century, that low intelligence was the greatest cause of crime (Goddard, 1914; Goring, 1913) to considering the possibility that, in some areas, anti-social youth may have higher abilities than youth in the general population (Anderson & Stoffer, 1979; King & Fularczyk, 1981).

Lutey (1977) concludes that most current studies indicate that the delinquent group is average or slightly below in intelligence test scores. Still we have researchers (Hirschi & Hindelang, 1977) who strongly hold the view that delinquency is directly correlated with intellectual

inferiority.

The contention of a high incidence of giftedness among delinquents has been made possible by the acceptance of a greater number and a broader range of abilities in the definitions of intelligence and giftedness (Guilford, 1967; Khatena, 1982; Marland, 1972).

Given the contradictory evidence in the literature about the incidence of giftedness in juvenile delinquents, it is difficult to predict the direction of the results of this examination of the evidence of giftedness in delinquent youth. Under these circumstances it is clear that additional research on this question is necessary if we hope to gain sufficient knowledge to allow us to optimally develop the abilities of our youth including those who come to be called "delinquent".

CHAPTER 3

METHODOLOGY

Hypotheses

The present review of the literature examined research which indicated that there was a smaller percentage of individuals with superior intelligence among delinquents than there was in the general population (Eilenberg, 1962; Gath & Tennent, 1972; Merrill, 1947). Since giftedness has long been equated with high scores on intelligence tests (Khatena, 1982) the logical conclusion from such research is that giftedness is relatively uncommon among delinquents. However, the development of broader definitions of giftedness led some researchers (Harvey, 1981; Harvey & Seeley, 1984) to present evidence to suggest that there may not be a significant difference between the percentages of gifted individuals in the delinquent and the general populations; others (Anderson & Stoffer, 1979; King & Fularczyk, 1981) suggest that the incidence of giftedness among delinquents may be higher than that for the general population.

The research hypothesis for this study is that there is no difference between the incidence of giftedness among young offenders and the incidence of giftedness in the general population. This translates into the null hypothesis for the study which is that the occurrence of giftedness

in the sample is equal to the occurrence of giftedness expected in a normal distribution of scores for each subtest of the Torrance Tests of Creative Thinking, the Metropolitan Achievement Tests, and the Wechsler Intelligence Scales, subscales and subtests.

It is accepted that the characteristics being measured are normally distributed throughout the general population, with means and standard deviations as stated by the authors of the various test instruments administered. Also, it is assumed that the 26 subjects selected for this study are a representative sample of the male, young offender population of Newfoundland.

For the purpose of this study a test score that is at, or above, the 84th percentile will be considered an indication of giftedness. This value is consistent with the criterion levels proposed by DeHann and Havighurst (1957), Gowan and Bruch (1971) and Rice (1970).

Method

Subjects: The subjects for this study were twenty-six males ranging from 13 to 19 years of age, with a mean age of 16.5 years. All of the subjects were convicted of one or more of the following offences, break entry and theft, theft, property damage, or assault, and were involved in the youth corrections system of Newfoundland.

In all cases the subjects were selected for testing on

the basis of their availability and their willingness to participate in the study.

Instrumentation: The Metropolitan Achievement Tests: Basic Survey Battery (Prescott, Balow, Hogan & Farr, 1978) was used to determine the subjects' academic ability. This battery covers the grade range from kindergarten to grade 12, and tests the areas of reading, mathematics and language.

The Torrance Tests of Creative Thinking; Figural Form A (Torrance, 1966, 1974) was used to measure creativity. This test consists of three separate activities: Picture Construction, which is designed to stimulate originality and elaboration, and Incomplete Figures and Repeated Figures both of which elicit fluency, flexibility, originality, and elaboration.

Depending upon the chronological age of the subject, general intelligence levels were measured by either the Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974) or the Wechsler Adult Intelligence Scale-Revised (Wechsler, 1981). Although two different forms of the Wechsler Intelligence Scales were used, the Wechsler Intelligence Scale for Children-Revised and the Wechsler Adult Intelligence Scale-Revised, both these forms were considered equivalent for the purposes of this study. This decision was based on the general acceptance of the Wechsler Scales as measures of the same factors, and the

high coefficients of correlation between the two forms as reported by Wechsler (1981).

Procedure: All testing for the study took place between March and December of 1985, and all but three subjects were administered the tests in the order intelligence, achievement and creativity.

The author enlisted the assistance of graduate students in Educational Psychology at Memorial University of Newfoundland to assist in the administration of intelligence tests.

CHAPTER 4

RESULTS

Table I includes the median, mean, and standard deviation of the sample for the subtests of the Metropolitan Achievement Tests, the Torrance Tests of Creative Thinking, and the three IQ scores of the Wechsler scales.

Table I: Young offenders' intelligence, achievement, and creativity medians, means, and standard deviations.

	Median	Mean	Standard Deviation
Wechsler[a]			
Verbal	90.50	91.39	11.22
Performance	97.00	97.35	11.65
Full Scale	93.50	93.23	10.34
Metropolitan[b]			
Reading	36.00	38.73	24.53
Math	40.00	41.85	23.25
Language	31.00	30.85	16.62
Torrance[c]			
Fluency	46.00	44.12	11.52
Flexibility	51.00	48.46	10.61
Originality	52.50	51.46	13.95
Elaboration	41.00	43.30	12.89

Note. Intelligence X = 100, s = 15

[a] Values expressed are intelligence quotients.
[b] Values expressed are percentiles.
[c] Values expressed are t-scores.

The information in Table I indicates that, when compared to normally distributed scores, the scores on all of the dependent variables are mainly grouped within the first standard deviation below the mean. Also, in the case of the intelligence test scores, the observed scores tend to be within the accepted, average IQ range of 90-110. Klas (1984) found that a sample of 315 males referred to an Eastern Canadian University for testing with the Wechsler Intelligence Scale for Children-Revised had an average IQ of 95.19. However, it was decided to use the Wechsler scale norms for comparison purposes in this study because Klas' sample included an unknown number of subjects who were referred because they were thought to be exhibiting various degrees of mental retardation.

Prior to testing the statistical significance of the null hypotheses, it was necessary to determine if the variance associated with the different intelligence test examiners was significant. A one-way analysis of variance performed on each set of IQ scores, Verbal, Performance, and Full Scale, with examiner as the independent variable, indicated that there were no significant differences in test scores caused by the different examiners. Table II lists the F-values and their probability levels for each IQ variable. None were statistically significant at the level $p < .05$, although the F-value for the Performance IQ approached significance.

Table II: F-values and probability levels for three, one-way analyses of variance of the examiner variable.

	F(8, 17)	Probability Level
Verbal IQ	.554	.801
Performance IQ	2.244	.059
Full Scale IQ	1.431	.254

Table III shows the distribution of scores for the various sections of the three tests administered. As well, it indicates the frequency of standardization sample scores falling below and above the first standard deviation intervals from the mean. Also shown in Table III, for comparison purposes, is the expected frequency of scores for a sample size of 26 if the scores were normally distributed.

It is evident from Table III that the greatest number of "gifted" scores appeared on the Torrance Tests of Creative Thinking. Ten subjects, or 38.46 percent of the sample tested, scored higher than one standard deviation above the mean on at least one creativity subtest. Two of those subjects also scored at this level on the Performance IQ, one of whom also scored high on the Math subtest, and another who scored high on the Reading subtest. Since all of the subjects who scored high in other areas also scored high in creativity, the overall percentage of subjects

scoring at or above the 84th percentile on at least one section of the three tests remains 38.46 percent.

Table III: Frequency of observed and theoretical test scores above and below one standard deviation from the mean.

	< -1SD	-1SD	$\bar{X}$	+1SD	> +1SD
Theoretical Normal Distribution	4	9	9		4
Verbal IQ	9	10	7		0
Performance IQ	3	13	8		2
Full Scale IQ	6	13	7		0
Reading	3	16	6		1
Math	2	14	9		1
Language	4	18	4		0
Fluency	9	6	9		2
Flexibility	7	5	9		5
Originality	7	5	6		8
Elaboration	13	6	2		5

Note. $n = 26$ for theoretical and observed score distributions.

In order to test the significance of the null hypothesis, the probability of obtaining the number of gifted scores observed for each section of the intelligence test, and each subtest of the creativity and achievement tests, as indicated in Table III, was calculated using the formula for the binomial distribution. Since the null hypothesis is nondirectional, or two-tailed, the probability of a given number of gifted scores occurring had to be $p \leq .025$ in order to be considered significant. As the reader can

see from Table IV, there are three measures wherein the observed gifted scores differ significantly from the number that would be expected; these measures are, Verbal IQ, Full Scale IQ, and Language achievement. For all other measures the scores did not differ significantly from those values associated with a normal distribution. As well, one of the creativity measures, Originality, approached significance (p = .0279).

Table V shows the frequency of high Wechsler subtest scale scores that were obtained by the subjects. As indicated, scale scores at least one standard deviation above the mean were obtained in five Performance subtests.

Table IV: Probability of obtaining the observed number of gifted scores in each area as calculated by the binomial distribution formula.

Test	Number of scores ≥ 84th percentile	Probability of occurrence
Verbal IQ	0	0.0112*
Performance IQ	2	0.1296
Full Scale IQ	0	0.0112*
Reading	1	0.0549
Math	1	0.0549
Language	0	0.0112*
Fluency	2	0.1296
Flexibility	5	0.1756
Originality	8	0.0279
Elaboration	5	0.1756

*$p < .025$

Table V: Number of subjects obtaining Wechsler subtest scale scores at least one standard deviation above the mean.

	+1SD	+2SD
Object Assembly	2	2
Picture Completion	2	0
Picture Arrangement	1	0
Mazes	1	0
Coding	1	1

CHAPTER 5

DISCUSSION

As it applies to Performance IQ, Reading and Math Achievement, and four areas of creativity, Fluency, Flexibility, Originality and Elaboration, as defined and measured by the test instruments used in this study, the null hypothesis is accepted. From this it is concluded that in these domains of giftedness there is no significant difference between the proportion of boys in the delinquent and nondelinquent populations who are gifted. This conclusion supports those researchers who present evidence to suggest that there is no difference between the incidence of giftedness in the delinquent and general populations, (Harvey, 1981; Harvey & Seeley, 1984; King & Fularczyk, 1981).

As it applies to Verbal IQ, Full Scale IQ, and Language achievement the null hypothesis must be rejected. It is concluded that in these areas there is a significantly <u>smaller</u> proportion of boys in the delinquent population who are gifted, than there is in the general population. This conclusion supports the large volume of research which suggests that delinquents score lower on general tests of intelligence than do nondelinquents, (Gath & Tennent, 1972; Hirschi & Hindelang, 1977). However, given that the Full Scale IQ is derived from a combination of the Performance and Verbal IQs, the three areas with low

scores rely heavily on the individual's verbal skills, largely verbal comprehension, both in the case of the verbal subtests of the Wechsler scales, and the Language subtest of the Metropolitan Achievement Tests. It is not surprising that these are the areas with fewer gifted delinquents, considering the evidence presented which indicates that the verbal abilities of delinquent youth are underdeveloped (Lutey, 1977; Prentice & Kelly, 1963; Richardson & Sorko, 1951; Wechsler, 1958).

The importance of considering specific abilities, as suggested by Mahoney (1980), when attempting to detect gifted individuals in any population is also supported by the apparent influence that verbal skills have on the results. Here is a case where consideration of Full Scale IQ, alone, indicated that there were no gifted or potentially gifted individuals in the population, but when the visual motor skills were examined alone, as measured by the Performance subscale of the Wechsler scales, it was found that there were as many gifted subjects identified as would be expected in a normal population. Given that, as Glueck and Glueck (1950) found, youth who get in trouble with the law are disadvantaged socially and educationally through having more moves in their lives and a more erratic school experience, the Performance IQ and the creativity tests may be a more precise measure of the actual number of gifted individuals in the delinquent population.

With regard to creativity, it is interesting that the Fluency subtest was the measure on which the fewest subjects scored in the gifted range; see Table IV. This is in contrast to the findings of Anderson and Stoffer (1979) and Kuo (1967), who found Fluency in the non-verbal area to be where delinquents score highest. However, the pattern of creativity scores found here is supported by Torrance (1974) in his description of how the figural scores should be interpreted. Torrance states that subjects who score high on Figural Fluency almost always have low Flexibility, Originality, and Elaboration scores, while those who score low on Figural Fluency usually spend more time elaborating, and expend more energy breaking away from the commonplace. This appears to be the case in the present sample in which there are a relatively large number of high Flexibility, Originality, and Elaboration scores.

The findings for the intelligence variables generally support the research literature on the intellectual performance of delinquents. There are, however, some interesting and noteworthy aspects of the results in this area. Aside from the fact that it is the Verbal subtests on which the delinquents score lowest, it is perhaps significant to note the number of subjects who attained the high subtest scores on the Wechsler Intelligence Scales noted in Table V. Three of the 26 subjects, or 11.53 percent, had at least one subtest scale score in the very superior range,

that is at or above the 98th percentile, and another five subjects, or 19.23 percent of the sample, had at least one subtest scale score in the superior range, that is at the 91st percentile. In a normal distribution only 6.7 and 2.3 percent of the population would be expected to have subtest scale scores in the superior and very superior range, respectively. The actual performance of subjects in this sample indicates that a relatively high number of delinquents have the potential for gifted ability in specific areas of performance. These ability areas are largely visual motor as indicated by the fact that seven of the eight subjects with high scale scores had at least one of these scores on the Performance section of the test, with Object Assembly being the most frequent high score. Also, the two subjects who scored high on Verbal subtests did so on Coding which is largely a test of visual motor coordination.

An overall picture of the results shows that in most areas measured there is no difference between the incidence of giftedness in the delinquent and general population; however, the results do indicate a trend for young offenders to obtain higher scores on tests that measure divergent as opposed to convergent thinking, and on tests that rely more on visual motor skills than on verbal skills. This pattern in the test scores of the sample studied gives support to the position that in order to find gifted

delinquents one must consider tests that measure divergent thinking and visual motor skills (Mahoney, 1980; Seeley, 1984), since these appear to be the areas where anti-social youth tend to perform best. Furthermore, these are areas that are not attended to by traditional group and individual IQ tests.

The pattern of test scores found here is also predictable for a delinquent population in light of arguments made by Getzels and Jackson (1962) and Wallach and Kogan (1965). Getzels and Jackson (1962) claim that individuals whose creativity score is higher than their intelligence scores are more intellectually inventive and innovative, and are more likely to take risks and make unusual contributions to the group. Wallach and Kogan (1965) found that such individuals were in conflict with themselves and their school environments, and that they had feelings of unworthiness and inadequacy. Similarly, the pattern of scores for the present sample indicates that exceptionally creative individuals with relatively low verbal skills but average or above average visual motor abilities are frequently found in delinquent populations.

There are implications for treatment that arise from this pattern of test scores. If, indeed, there are a significant number of delinquents with high levels of creativity and low verbal skills relative to their visual motor skills, then the approach to rehabilitating these

youth should take this into consideration. What this means is that there should be more emphasis placed on the types of training and education that involve hands-on experience and allow the delinquents to use more of their right hemisphere abilities. Success experiences in the vocational, trade and visual arts areas would be more likely for youth with these abilities than would success in the more traditional areas of education which place heavy emphasis on verbal abilities.

The success experiences that result from effectively utilizing one's abilities are instrumental in laying the groundwork for a positive self-image. In the case of the male delinquent, the general good feeling, the positive reinforcement and encouragement that result from the effective use of his abilities can be the beginning of a positive change in self-image and a consequent reduction in anti-social behaviour.

The present study partially supports the growing number of researchers who claim that there are a significant number of gifted individuals among our juvenile delinquent population, (Brooks, 1980; Mahoney, 1980; Parker, 1979; Seeley, 1984). It also supports the widely accepted belief that delinquents are weakest in the area of verbal skills, and it suggests that their area of greatest strength is figural creativity. Perhaps the most significant conclusion that can be drawn from this study is that the incidence of

giftedness among delinquents is dependent on the particular gifts being measured and the particular measures used to operationalize those gifts.

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