AN ABSTRACT OF THE THESIS OF

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Title:___ Comparing Intellectual Performance of Incarcerated,_____

Violent Schizophrenics to a General Population Sample Using the __

WAIS-R _____

Abstract approved:_____

The purpose of this study was to compare Wechsler Adult Intelligence Scale-Revised (WAIS-R) subtest scores for a group of violent schizophrenic inmates (Axis I) and a group of violent schizophrenic inmates who also have a personality disorder (Axis I+II) with Wechsler's (1958) Schizophrenic and Sociopathic diagnostic characteristics in an attempt to validate these two profiles. Additionally, a control group of nonviolent, nonschizophrenics was used in the comparison. Participants' scaled scores from the WAIS-R were also examined for significant differences among the groups. Each sample group contained 12 men with a mean age of 37.5 and the control group also consisted of 12 men with a mean age of 27. The WAIS-R was administered to all the participants and the scores for the 11 subtests were recorded. Other recorded information included history of prior crimes, the types(s) of the current offense(s), use of mind-altering chemicals prior to the offense(s), employment, and use of medication for schizophrenia. Each participant's scaled scores were

converted into average deviations and compared to Wechsler's scoring criteria for the diagnostic profiles. Frequency counts of correct hits on the profiles were tallied and reported for each group. Eleven oneway ANOVAs were separately performed on the average deviations and the WAIS-R scaled scores among the three groups.

Wechsler's diagnostic profiles were not supported by this research study. All three groups had approximately the same number of hits on the profiles, and thus, the profiles could not accurately identify schizophrenic or sociopathic individuals. A review of the ANOVA's computed for the average deviations indicated that the differences among the groups were so minimal that virtually no difference exists between schizophrenics and nonschizophrenics. Average deviations describe performance consistency between subtests. The ANOVAs computed for the scaled scores revealed that the control group's mean IQ is significantly higher than the mean IQ of both of the schizophrenic groups. Lastly, the added diagnosis of a personality disorder as specified in the Axis I+II group did not differentiate from the Axis I group who have the sole diagnosis of schizophrenia.

Comparing Intellectual Performance of Incarcerated,

Violent Schizophrenics to a General Population Sample

Using the WAIS-R

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A Thesis

Presented to

the Division of Psychology and Special Education

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by

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CHAPTER ONE

Introduction

In 1958, David Wechsler published diagnostic and clinical features of individuals based upon test scores of the Wechsler Adult Intelligence Scale (WAIS). Wechsler based his hypothesis upon the discovery that certain types of mental illness affect specific intellectual skills. From this certain groups of individuals could be identified through commonly shared test characteristics or test profiles.

One diagnostic group Wechsler identified was schizophrenics. Schizophrenia is one of the most prevalent severe psychological disorders although it is estimated that schizophrenia affects less than 1% of the United States population. This type of psychosis reflects major disruptions of reality, including delusions in perception and emotion. Delusions often surround a theme such as a false identity (believing yourself to be Jesus Christ) or paranoia (the CIA is out to get me). Communication and psychomotor skills can also be greatly hindered. A second primary symptom is hallucinating or seeing and hearing things that are not really present except in the schizophrenic's mind; however, hallucinations can affect any of the senses (Rosenhan & Seligman, 1989). Schizophrenia should not be confused with the personality disorders of schizotypal or schizoid. These three pathologies are all quite distinct from one another and will be

discussed later.

There are five different types of schizophrenia: catatonia is dominated by peculiar behavior; disorganized is dominated by inappropriate affect and associations; paranoid is characterized by a preoccupation of systematic delusional themes; undifferentiated is dominated by hallucinations and delusions; and lastly, residual is diagnosed by less severe symptoms (American Psychiatric Association, 1987). Wechsler (1958) noted that the type of schizophrenia could slightly vary the pattern analysis, but over all, the schizophrenics' diagnostic profile is characterized mainly by impaired immediate and direct efforts such as putting puzzles together to make something that is not an obvious object when in pieces. Thinking is often slow and concrete, and such individuals tend to have difficulty moving from one task to another while attempting to maintain perseveration from previous tasks and ideas. Despite the distortions and misinterpretations of reality that often accompany schizophrenics, they usually do better on the Verbal than the Performance sections of the WAIS.

When examining specific subtests of the WAIS, Wechsler (1958) stated that the schizophrenic's test scaled score sum of Picture Completion plus Comprehension is often less than the total scaled scores of Information and Block Design while Object Assembly is much lower than Block Design. Additionally, a very high score on

the Similarities subtest and a very low score on the Picture
Completion subtest tends to be an exclusive schizophrenic
characteristic. The entire schizophrenic profile, based upon expected
subtest scores, is shown in Appendix A.

Wechsler (1958) also identified common characteristics among
sociopaths. Sociopath, or antisocial personality disorder as it is called
today, is one of many personality disorders currently recognized by
the American Psychiatric Association (APA). The APA has grouped
the personality disorders into three clusters. One cluster is
characterized by dramatic, emotional, or erratic behaviors. These
include the antisocial, borderline, histrionic, and narcissistic
personality disorders. The second cluster includes personality
disorders that are characterized by odd, peculiar, and eccentric
behaviors including the paranoid, schizoid, and schizotypal
personality disorders. The final cluster includes personality disorders
that are characterized by anxious or fearful behavior. Avoidant,
dependent, obsessive-compulsive and passive personalities are found
in this cluster. Additionally, when an individual does not fit any of
the criteria for any of the specified listed personality disorders,
Personality Disorder Not-Otherwise-Specified is appropriate.
Personality disorders are defects in one's character or maladaptive
traits. As opposed to schizophrenia, there is not a loss of contact with
reality (DSM-III-R, 1987; C. Holmes, personal communication,

1993).

Wechsler (1958) noted that the antisocial profile is best known for high scores on the Performance subtests over the Verbal subtests of the WAIS. When individual subtests are examined, high scores are typically found on the Picture Arrangement subtest. Low scores are generally found on Similarities as these individuals tend to be below average in abstract thinking. Information tends to be the lowest subtest score. Wechsler's hypothesized sociopath profile is shown in Appendix A.

Later researchers have disputed Wechsler's hypothesized relationship between intelligence and personality types. Frank (1970) argued that the Wechsler IQ test should not be used to determine personality types or, at best, previous research should be discarded due to methodological flaws. However, Lewandowski, Saccuzzo and Lewandowski (1977) supported Wechsler's 1958 hypothesis on sociopathic intelligence characteristics using the Wechsler Intelligence Scale for Children. The results from their study concurred with Wechsler who indicated that as a group, both genders of White and Black participants tended to have relatively low Verbal subtests with Information usually being the lowest or second lowest subtest score. Similarities, however, was found to be a high score rather than a low score as Wechsler had indicated. Lewandowski et al. (1977) also found that the sociopathic profile

tends to be most predominately found with individuals of IQs between 70 and 89. Moreover, White boys tend to best fit the characteristics of this profile followed by Black boys and White girls. Black girls fit the characteristics poorly.

Intelligence has been correlated with mental illness and with criminal activities as the literature review will show. Unfortunately, most of this prior research only correlated Full Scale IQ (FSIQ) with criminal behavior. This ignores Wechsler's diagnostic profiles and the specific intellectual abilities that the Wechsler Adult Intelligence Scale-Revised (WAIS-R) assesses. FSIQ scores are often associated with descriptive classifications such as "Average" or "Below Average." For example, a subject's WAIS-R FSIQ score of 85 would indicate an intelligence level within the Low Average range of ability. However, the WAIS-R consists of six Verbal subtests and five Performance subtests. Each subtest was designed to measure specific mental abilities, thus not all of the individual's 11 subtest scores were Low Average. Actual abilities may vary greatly from subtest to subtest. For example, performance on certain tasks may be Retarded or High Average.

LITERATURE REVIEW

The literature review will show that (a) the percentage of Low Average intellectual levels is much higher for inmate populations than for the general population, (b) low IQ is correlated with violent crime,

and (c) certain personality disorders are correlated with low IQ. Carvajal, Shaffer and Weaver (1989) tested 29 men (mean age 30.4 years) housed in a midwestern maximum security prison with the WAIS-R. The group's mean FSIQ score was 87.6, nearly one full standard deviation below the mean of the normative sample (Wechsler, 1981). Hollander and Turner (1985) found that within their sample of 200 incarcerated delinquents, 47% had Borderline IQs.

Low IQ has also been correlated with criminal behavior. Using the WAIS, Wagner and Klein (1977) found murderers had a mean average IQ of 85.3, while individuals who committed aggressive attacks short of murder had a mean IQ of 97.3, significant at the .01 level. These authors were not successful in finding significant intersubtest differences for either group, but the lowest scaled score averages for two WAIS subtests for the murderers ranged from a low 6.5 on Object Assembly, which often contributes insight into the the subject's ability and method of problem solving (Wechsler, 1958), to 8.7 on Digit Span, which measures attention span and immediate memory (Wechsler, 1958). Jakubowaska (1982) found that anticipatory abilities and learning ability were lower than average using the Wechsler-Bellevue Intelligence Scales. Jakubowska's sample consisted of offenders who had committed less violent crimes such as robberies and break-ins.

From a 1982 study by Heilbrun, differences between low and

high IQs were found to be dependent upon or correlated with pathology and nonpathology. The type of crimes committed were also correlated with pathology and IQ. Participants included 60 Black and 108 White male prisoners in the Georgia penal system. The overall mean age and education levels at the time of testing were 32.96 and 9.63 years, respectively. Thurstone's general factor and the IPAT Culture Free Intelligence Test were used to calculate the mean IQ score for the group at 101.22. High and low IQ was defined by a median split (low IQ < 98 and high IQ > 99). Criminal psychopaths with low IQ were identified by poor impulse control, low empathy, and the lack of inhibitions against physical aggression. Their violent crimes would not have "a purpose." Within this group, the interaction between psychopathy and low intelligence was significant. This is an important finding because it describes what "type" of people commit random acts of violence. Psychopathy, a personality disorder term seldom used today, is described in Heilbrun's literature from the 1968 American Psychiatric Association as a "condition in which socialization has failed . . . [low] frustration tolerance and a selfish, callous, impulsive and irresponsible life type . . . . egocentric [and] the absence of emotion in interpersonal behavior" (p. 509). The second group consisted of high IQ psychopaths who committed crimes to satisfy their own sadistic needs. This group tended to have better impulse control. The third group from this study consisted of low IQ,

nonviolent individuals who tended to "find themselves" in situationswhere violent crimes would be committed as a type of self-defense. Finally nonviolent, high IQ criminals were not set apart from the other three groups in any measure.

Medvecky and Kafta (1972) studied 10 mothers who had committed neonaticide. Three apparent causes of the neonaticide were identified as follows: (a) rational motivation in a time of crisis, (b) neonaticide characterized mainly by causes similar to manslaughter and (c) neonaticide as a result of poor and troubled personality development and low IQ. Heilbrun and Heilbrun (1985) found that low IQ correlated positively with degrees of dangerousness that was determined from disciplinary records of misbehaviors in prison. Furthermore, the highest prison and parole dangerousness scores were obtained by those subjects who were psychopathic, socially withdrawn, and had a history of committing violent crimes. These studies revealed the magnitude of IQ in criminal behaviors.

By leaving out specific intellectual abilities, questions still arise about how and why intelligence is important. For example, types of low intelligence have been linked to "involuntary crimes" such as crimes due to reckless driving. In 1983 Pannain, Correra, Starce, and D'Alessio found that "common sense" intelligence and the ability to solve problems quickly were deficient in individuals stopped for such crimes.

Certain kinds of psychopathology, including personality disorders, have been correlated with low IQ. Holland, Beckett, and Levi (1978) set out to correlate the F validity, Psychopathic Deviate (Pd) which is similar to the antisocial personality disorder and Hypomania (Ma) scales of the Minnesota Multiphasic Personality Inventory (MMPI) with global intelligence. Participants consisted of 390 adult male felony offenders in the California Department of Corrections. Of the three MMPI scales, an elevated Pd index score significantly correlated with an individual's lifetime total number of violent convictions. Thus, the greater the Pd scale, the more convictions. An inverse relationship was found between IQ and the number of crimes committed where IQ decreased as the number of convictions increased. Specifically, the group's mean IQ with one violent conviction was 104.99 ($\underline{SD}$ = 11.92) whereas the group's mean IQ with five convictions was 95.27 ($\underline{SD}$ = 9.40). In another study consisting of 200 incarcerated delinquents ranging in age from 12 to 18.9 years of age, Hollander and Turner (1985) found that 34% of their sample had overlapping symptoms of schizotypal, paranoid, and borderline personality disorders. The diagnosis of conduct disorder (prerequisite adolescent diagnosis for the adult antisocial personality disorder) was significantly associated with Borderline IQ ($\underline{p}$ < .003), and 75% of their sample was diagnosed with conduct disorders. The

most common form was undersocialized, aggressive type. Developmental disorders were also pervasive. Although this next study did not include intelligence as a factor, its findings on personality were still relevant. Tupin, Mahar, and Smith (1973) compared 25 nonviolent male offenders, 25 habitual violent male offenders, and 25 nonhabitual violent offenders and found that with members of the two violent groups which had committed murder, a personality disorder was the most common diagnosis.

Despite the accumulating data, intelligence has not always been found to correlate with criminal behavior. Weitzel and Blount (1982) used 176 incarcerated females in an attempt to correlate drug use with intelligence. The heaviest substance users were younger, and their crimes were usually drug related and nonviolent. Although intelligence was not found to be a significant factor in this particular study, the literature repeatedly demonstrated that intelligence and psychopathology have strong relationships with criminal behavior, often violent criminal behavior.

Purpose

The purpose of this study was to compare Wechsler Adult Intelligence Scale-Revised (WAIS-R) subtest scores for a group of violent schizophrenic inmates (Axis I) and a group of violent schizophrenics inmates who also had a personality disorder (Axis I+II) with Wechsler's (1958) Schizophrenic and Sociopathic

diagnostic characteristics. As Lewandowski et al. (1977) were able to support Wechsler's (1958) sociopathic personality type, this study set out to validate the schizophrenic and sociopathic profiles with the Axis I and Axis I+II offenders. An important focus here was not only to validate the profiles, but to find whether a personality disorder could significantly differentiate the two groups of schizophrenics. Diagnostic profiles would have been beneficial in initial assessments, treatment programs, and other procedures by identifying specific intellectual abilities common to the Axis I and Axis I+II groups. Unfortunately, neither diagnostic profile was supported by this study.

This study also compared Axis I and Axis I+II groups' mean average deviation subtest scores to a control group of nonviolent, nonschizophrenic individuals. A mathematical equation called mean average deviation was calculated as follows: [(Full Scale Standard Score - Subtest Standard Score)/10] - Subtest Standard Score. The mean average deviation showed how consistently an individual performed across all 11 subtests. It provided the score variance of one subtest to the remaining subtests. In turn, the average deviation for each group was calculated to describe how consistent each group's subtest score was to the remaining groups. Large deviations indicated wide variations among participant's scores. Small deviations indicated uniformity and group consistency. The present researcher hypothesized that each of the two violent schizophrenic sample

groups would have significantly larger deviations than the control

group.

CHAPTER TWO

Method

<u>Participants</u>

The first group of inmates contained 12 men who were chosen because they had a sole diagnosis of schizophrenia (Axis I). The inclusion of a specific Axis I diagnosis was a unique feature in the study of intelligence, mental problems, and criminals. The second group was composed of 12 inmates who had a personality disorder in addition to the schizophrenia (Axis I+II). Seven men had an additional diagnosis of antisocial personality disorder, and 5 men were diagnosed with unspecified personality disorders. Both groups of inmates were housed in a midwestern maximum security correctional mental health facility. Each member of these two groups identified above was also selected on the basis of having committed a violent crime operationally defined as murder, rape, aggravated battery, and aggravated robbery, or combinations of these crimes. All participants' intellectual abilities were assessed with the Wechsler Adult Intelligence Scale-Revised.

Within the Axis I group, the mean age was 39, seven participants were Black, and the others were White. Mean years in education was 8.9, and the mean Full Scale IQ (FSIQ) was 83.3. Eight had a history of prior convictions. Three participants were serving a current sentence for murder, three for aggravated robbery,

two for aggravated battery, one for kidnapping and sodomy, two for

rape, one for rape and burglary, and one inmate was convicted of

aggravated robbery, aggravated battery, and rape. The mean age at

the time of the most recently committed crime was 27.5. Eight

inmates were under the influence of mind-altering chemicals and two

were taking medication for their schizophrenic symptoms at the time

of the crime. Five inmates were employed at the time of arrest.

Incidentally, all who were charged with robbery were also employed.

Within the Axis I+II group, the mean age was 37, 10 were

Black, 1 was Hispanic and 1 was White. Mean years in education was

10.4, and the mean FSIQ was 86.3. Like the Axis I group, 8 men also

had prior convictions. Four men were serving their current sentences

for murder (one also was convicted of aggravated assault), two for

aggravated battery or assault, two for aggravated robbery, one for

aggravated sodomy, one for aggravated robbery and aggravated

battery, and two for aggravated battery and rape. The mean age at the

time of the crime was 25.5. Six men were under the influence of

mind-altering chemicals, and two were on medication for their

schizophrenic symptoms at the time of the current crime. Three were

employed.

The control group consisted of 12 adult White male volunteers

from a medium sized midwestern city. The mean age was 27. Ten of

the volunteers had completed high school but only two completed any

college. The mean FSIQ was 108.5.

Instrument

The administration of the Wechsler Adult Intelligence Scale-Revised (WAIS-R) is highly structured and includes a manual with specific directions that are to be followed explicitly. Directions for scoring the tests are also detailed and illustrations are provided when necessary.

David Wechsler (1981) included 11 subtests that make up the WAIS-R. The scaled score value from all 11 subtests provides the FSIQ. The FSIQ score is separated into seven classifications. These classifications follow the theoretical normal curve where 50% of the United States population is estimated to be Average in intelligence. Based upon the general content of each subtest, the WAIS-R can also be divided into Verbal IQ (VIQ) and Performance IQ (PIQ). The average FSIQ, VIQ and PIQ is 100 with a standard deviation of 15. At the extreme ends of the curve, only 2.2% of the United States population are estimated to be either Mentally Retarded or Very Superior. From highest to lowest, the classifications are as follows: Very Superior, Superior, High Average, Average, Low Average, Borderline, and Mentally Retarded (Mentally Deficient).

The VIQ is based upon six subtests. The Information subtest measures general information pertaining to home and school. The Comprehension subtest consists of open-ended questions

pertaining to real life situations. These questions seek practical judgment, self-direction, and common sense. One need not have a good education to do well on this subtest, but individuals reared in socially impoverished environments tend to do poorly. When individual responses to the Comprehension subtest questions are analyzed, low scores may indicate sociopathic ideas, psychotic processes, dependency needs, or the need to defy social conventionality. The Arithmetic subtest measures concentration in addition to math skills. Similarities measures the ability to generalize and to use abstract reasoning. The Vocabulary subtest measures language background and verbal ability; of all the subtests, it is least affected by emotional problems. Vocabulary is highly correlated with the Information subtest. Large discrepancies between these two subtests are clinically significant and are not expected under normal conditions. Lastly, Digit Span measures the span of attention and immediate recall.

The PIQ is based upon five subtests. Digit Symbol, measures visual rote learning and immediate visual recall. Picture Completion measures visual alertness and awareness to detail. The Block Design subtest measures concept formation and spatial relationships. The Picture Arrangement subtest measures the ability to anticipate, social planning skills, and sequential ordering. Wechsler (1958) noted some refer to this subtest as "social intelligence" although he

preferred to describe it as intelligence in a social setting. Picture Arrangement also provides information as to whether or not individuals have a sense of "cause and effect." Low scores may stem from focusing only on a few of the frames and ignoring critical details. Incidentally, individuals diagnosed as antisocial (psychopathic) often do very well on this subtest. Finally, Object Assembly measures the ability to perceive spatial relationships as well as visual-motor coordination. Insight may also be gained into the individual's work habits (Wechsler, 1981).

The WAIS-R is a highly respected tool for the measurement of intelligence. Split-half reliability is determined for all subtests except for Digit Span and Digit Symbol. These remaining two subtests employ a test-retest procedure. The average reliability coefficients across age groups vary among subtests and among the VIQ, PIQ, and FSIQ. The vast majority of the subtest coefficients are .84 or above. The average across ages VIQ, PIQ, and FSIQ reliability coefficients are .97, .93, and .97 respectively (Wechsler, 1981). The WAIS-R test has high correlations of validity with other intelligence measures. The WAIS-R correlates .89 with the General Aptitude Test Battery (Kaufman, 1990) and .85 with the Stanford-Binet (Wechsler, 1981).

Dependent and Independent Variables

The dependent variables were each of the three groups' average deviation subtest scores. The average deviation was found by

subtracting the Subtest Standard Score under consideration from the Full Scale Standard Score, dividing the sum by 10, and then subtracting the same Subtest Standard Score again. Finally, a group mean average deviation was calculated for each subtest for a total of three mean average deviations for each subtest. The independent variable was the diagnosis with three levels of schizophrenia (Axis I), schizophrenia plus a personality disorder (Axis I+II) and no diagnosis (control).

Procedure

A proposal that asked permission to use the inmates for research activities was written to the Kansas Department of Corrections. This also included a disclosure request (Appendix B).

Inmates were assigned to one of the two groups based upon the requirement of a sole diagnosis of schizophrenia or a dual diagnosis of schizophrenia and a personality disorder. Inmates signed a voluntary informed consent form (Appendix C) although data were collected by virtue of pre-existing data in its aggregated form. Each inmate received a photocopy of his signed consent form, and the original was placed in the inmate's permanent file. The inmates had the right to refuse to participate without consequence. The personal information about each inmate, such as the use of drugs prior to committing the crime, was gathered from the participant's mental health file, from the participant personally, or in combination.

Dependent upon the availability of time and the participant's ability for prolonged activities, testing occurred in one setting or was spread out over a period of time. The session(s) were conducted in a formal manner as described in the WAIS-R Manual (Wechsler, 1981). This researcher scored the test.

Statistical Design

In an attempt to verify Wechsler's diagnostic profiles, each participant's WAIS-R scores were examined for the correct "number of hits" on the Schizophrenic and Sociopathic profiles as shown in Appendix A. Frequency counts for each participant and overall goodness of fit for each of the three groups were determined.

In addition to the above, the two schizophrenic groups' and the control group's mean average deviations were calculated for each subtest. Eleven 1 X 3 between subject analyses of variances were computed to determine any significant differences among the three groups' mean average deviation scores for each WAIS-R subtest. The Tukey, a post hoc procedure, was used to locate the significant differences among the groups' subtest mean average deviations.

CHAPTER THREE

Results

The purpose of this study was to compare Wechsler Adult
Intelligence Scale-Revised (WAIS-R) subtest scores from a sample of
12 violent, male schizophrenic inmates (Axis I), a second group of 12
violent, male schizophrenic inmates who also had a personality
disorder (Axis I+II), and a third group of 12 male volunteers used for
a control group. Subtest scaled scores were computed into average
deviation scores and then compared to Wechsler's schizophrenic and
sociopathic diagnostic profile scoring criteria. A frequency count was
used to tally and report the number of times a participant's score
matched the diagnostic criteria for each subtest, thus obtaining a hit.
This provided the overall diagnostic accuracy for each subtest. The
frequency counts are presented in Tables 1 and 2. Overall profile
effectiveness of the 11 subtests when used together is shown in Table
3. This shows the mean number of subtests that were endorsed for the
schizophrenic and sociopathic profiles.

Also of interest was the determination of significant differences
among each of the three group's average deviation scores for the 11
subtests. A series of oneway ANOVAs were used to determine the
differences among the three groups. The results are shown in Table 4.
Table 5 shows each participant's mean average deviation for the 11
subtests of the WAIS-R.

Table 1

Number of Subtest Hits for Wechsler's Diagnostic Schizophrenic Profile

Subtest	Group		
	Axis I Hits (n = 12)	Axis I+II Hits (n = 12)	Control Hits (n = 12)
Verbal Tests			
Arithmetic	8	9	11
Comprehension	12	11	7
Digit Span	10	11	8
Information	3	4	1
Similarities	11	9	12
Vocabulary	0	0	0
Performance Tests			
Block Design	9	9	10
Digit Symbol	2	1	0
Object Assembly	1	2	2
Picture Arrangement	10	10	8
Picture Completion	6	9	12

Note. Nine out of 12 participants must obtain hits in order to endorse a subtest.

Table 2

Number of Subtest Hits for Wechsler's Diagnostic Sociopathic
Profiles

	Group		
Subtest	Axis I Hits	Axis I+II Hits	Control Hits
Verbal Tests			
Arithmetic	2	1	3
Comprehension	10	11	7
Digit Span	9	10	7
Information	4	1	4
Similarities	7	6	10
Vocabulary	7	6	5
Performance Tests			
Block Design	9	10	9
Digit Symbol	6	5	9
Object Assembly	5	4	0
Picture Arrangement	2	0	3
Picture Completion	11	9	10

Note. Nine out of 12 participants must obtain hits in order to endorse
a subtest.

Table 3

Means and Ranges for Total WAIS-R Subtest Endorsements

Group	Profile			
	sociopathic mean	schizophrenic mean	sociopathic range	schizophrenic range
Axis I	5.9	5.8	4-10	1-8
Axis I+II	5.3	6.2	4-7	5-10
Control	5.5	5.9	3-8	5-7

Table 4

Oneway ANOVAs of Average Deviation Scores by WAIS-R Subtests
With Group Means, Critical Differences, and Fs

Subtest	Axis I	Axis I+II	Control	F
Verbal Tests				
Arithmetic	2.02a	1.46a	1.30a	1.36
Comprehension	1.01a	1.45a	1.93a	2.04
Digit Span	1.21a	1.12a	1.56a	0.57
Information	1.91a	1.47a	1.70a	0.45
Similarities	1.55a	1.93a	.80b	3.35*
Vocabulary	1.24a	1.43a	1.48a	0.20
Performance Tests				
Block Design	1.37a	2.16a	1.09a	1.68
Digit Symbol	2.83a	2.36a	1.46a	2.89
Object Assembly	1.39	2.15a	.80b	3.80*
Picture Arrangement	1.53a	1.35a	1.64a	0.11
Picture Completion	1.80a	1.53a	.91a	1.23

Note. Different subscripts denote means that are statistically different
from one another at $p < .05$ in the Tukey honestly significant
difference comparison.

* $p < .05$.

Table 5

Participant's Mean Average Deviation Across all 11 WAIS-R Subtests

	Group	
Axis I	Axis I+II	Control
1.8	1.3	1.4
1.2	1.7	1.3
1.5	1.7	0.9
1.4	1.2	1.0
1.2	1.3	1.6
1.3	1.7	0.8
3.0	2.6	1.5
1.5	1.5	1.8
1.8	1.9	1.1
2.0	1.8	1.6
1.7	1.5	1.6
1.3	1.9	1.5

Finally, a series of oneway ANOVAs were computed to determine the differences among each group's subtest scaled scores, total verbal score, total performance score, and full scale score. The data are presented in Table 6.

The frequency count as shown on Table 1 indicated that from the Axis I group, only five of the 11 subtests, Digit Span, Comprehension, Similarities, Picture Arrangement, and Block Design surpassed 75% that positively identified schizophrenic individuals based upon Wechsler's diagnostic scoring system. At least 9 out of 12 participants in a group had to have obtained hits, or matched the diagnostic criteria for each subtest to achieve 75%. The frequency count for Axis I+II indicated seven subtests surpassed 75% for positively identifying schizophrenics. The subtests included Digit Span, Arithmetic, Comprehension, Similarities, Picture Completion, Picture Arrangement, and Block Design. The frequency count for the control group indicated four subtests, Arithmetic, Similarities, Picture Completion, and Block Design surpassed 80% in the schizophrenic criteria. Common endorsements among all three groups included Block Design and Similarities. Axis I and Axis I+II shared Digit Span, Comprehension, and Picture Arrangement. Axis I+II and the control group both endorsed Picture Completion and Arithmetic. Based upon the participants' frequency counts for each subtest, schizophrenics with a personality disorder were most like Wechsler's

Table 6

Oneway ANOVAs of Scaled Scores by WAIS-R Subtests With Group
Means, Critical Differences, and Fs.

Subtest	Axis I	Axis I+II	Control	F
Verbal Tests				
Arithmetic	7.00a	6.92a	10.25b	6.03*
Comprehension	7.08a	6.67a	11.83b	17.42*
Digit Span	7.08a	8.17a	11.08b	11.97*
Information	6.83a	7.83ab	9.83b	4.99*
Similarities	7.83a	7.92a	11.00b	7.74*
Vocabulary	6.58a	6.67a	9.50b	6.18*
Performance Tests				
Block Design	7.42a	9.08ab	11.25b	7.16*
Digit Symbol	4.42a	6.58b	10.75c	28.87*
Object Assembly	7.75a	8.83ab	10.33b	3.13*
Picture Arrangement	7.67a	6.67a	11.25b	12.13*
Picture Completion	8.17a	8.58a	10.08a	2.19
Verbal Subtests	42.42a	44.08a	63.50b	13.91*
Performance Subtests	35.42a	39.75a	53.67b	14.57*
Full Scale Score	76.12a	83.83a	117.17b	15.76*

Note. Different subscripts denote means that are statistically different
from one another at $p < .05$ (*) in the Tukey honestly significant
difference comparison.

schizophrenic profile.

Table 2 shows the total number of participant hits for the sociopathic profile. Again using 75% as the significant cut off point, the Axis I group endorsed the sociopathic criteria in four subtests which included Digit Span, Comprehension, Picture Completion, and Block Design. Axis I+II participants surpassed 75% hits on Digit Span, Comprehension, Picture Completion, and Block Design. Lastly, the control group endorsed Similarities, Picture Completion, Block Design, and Digit Span by. All three groups endorsed the same subtests except Comprehension and Similarities.

Table 3 shows that the Axis I group on average endorsed 5.8 subtests (53%) on the entire schizophrenic profile and 5.9 (54%) subtests on the entire sociopathic profile. The Axis I+II group endorsed averages of 6.2 (56%) and 5.3 (58%) subtests for the schizophrenic and sociopathic profiles, respectively. The control group had similar averages of 5.9 (54%) subtest endorsements for the schizophrenic criteria and 5.5 (50%) for the sociopathic criteria. After examination of the mean values, two problems arose. First, as the above percentages show, all three groups only endorsed about half of the 11 subtests in either profile. Fifty percent is not any better than chance alone. Second, because the control group also endorses approximately the same number of subtests, and many of the same subtests (refer to Tables 1 and 2), Wechsler's profiles may rate high in

reliability but quite low in validity.

The analysis of variance performed on the average deviation scores obtained from the 11 WAIS-R subtests (see Table 4) indicated that a significant difference existed among participant's deviations only on the Similarities and Object Assembly subtests ($p < .05$). Axis I+II participants had significantly lower average deviations from the control group in both cases. Axis I's average deviations were still lower, although not statistically lower than Axis I+II.

Table 5 shows the mean average deviation between subtests for all 36 participants. Wechsler (1958) believed that schizophrenics would have less consistent scores or greater variation among subtests. As this table indicates, all three groups have approximately equal variance among subtests.

The analysis of variance of scaled score data obtained from the 11 WAIS-R subtests (see Table 6) indicate several significant differences between groups. In most cases, participant's scaled scores in both Axis I and Axis I+II were significantly lower than the control group. This occurred in Digit Span, Vocabulary, Arithmetic, Comprehension, Similarities, and Picture Arrangement. The control group's scaled scores were equal Axis I+II to but higher than Axis I on Block Design and Object Assembly. Digit Symbol was the only subtest which differentiated all three groups where Axis I had the lowest mean and the control group had the highest mean. Picture

Completion was the only subtest that did not differentiate the three groups. The total Verbal score, total Performance score, and the Full Scale score for both Axis groups were all found to be significantly lower than the control group's scores.

The frequency counts and ANOVA findings, as well as the means and ranges provided in this chapter, show that there was little intergroup variability among Axis I, Axis I+II, and the control group. Not surprisingly, the greatest differences were found in IQ scores between the control group and both Axis groups.

CHAPTER FOUR

Discussion

A review of the results from this study indicated that the
Wechsler Adult Intelligence Scale-Revised (WAIS-R) did not
accurately identify schizophrenic or sociopathic individuals.
Wechsler's 1958 diagnostic hypothesis was not supported by this
research. By comparing the total number of WAIS-R subtests
endorsed as shown on Table 3, Axis I (schizophrenic individuals),
Axis I+II (schizophrenics with a personality disorder), and the control
group (no diagnosis), each group averaged about the same number of
hits toward a diagnosis. Axis I, Axis I+II and the control group
endorsed 5.8, 6.2, and 5.9 out of 11 subtests for the schizophrenic
profile respectively. That was a difference of 0.4 hits. Similarly, the
groups' endorsements for the sociopathic profile were 5.9, 5.3 and 5.5
subtests with a difference of 0.6 hits.

When examining each individual's score rather than group
means, the value of 72.7% hit accuracy, or 8 subtests out of 11 was
used to determine profile identification of a WAIS-R diagnosis.
Within the Axis I group, three schizophrenics and two sociopaths
were identified. No sociopaths were identified in the Axis I+II and
two schizophrenics. Two sociopaths were identified within the control
group. When hit accuracy was increased to 80% (nine out of 11),
only one schizophrenic was identified in the Axis I+II group and two

sociopaths were identified in the Axis I group. It is important to recall that both Axis groups are composed of schizophrenics. Wechsler's schizophrenic diagnostic profile only identified 15% of the known schizophrenics with 75% confidence. Moreover, the sociopathic profile did not identify any participant correctly. Because the use of this profile did not identify any antisocial personality disorders, there will not be further interpretation of the sociopathic results.

By comparing the total number of hits for each subtest as shown on Tables 1 and 2, all three groups had similar total hits per subtest for the schizophrenic criteria. A review of the WAIS-R tests of Axis I and Axis I+II participants revealed sharp contradictions to Wechsler's 1958 schizophrenic hypothesis. Each participant's average deviation from both groups on Vocabulary subtests was 1.9 to -2.8 below the remaining subtest means, whereas Wechsler stated that Vocabulary tended to be a high scoring subtest with average deviations of 2.8 and above. The Information subtest had much lower scores than Wechsler theorized. Wechsler set Information at 1.6 and above; however, half of the participants' average deviation scores were negative numbers which indicated the participants had done poorly in comparison to the rest of the subtests. Likewise, Wechsler set Digit Symbol between -1.6 to -2.7 average deviations below the remaining subtests' mean. The Axis I participants' scores ranged from 1.0 to -5.8, and Axis I+II participants' scores ranged from 3.5 to -3.6

with the vast majority below -2.8. Another sharp contradiction was the projected scores on Object Assembly. Wechsler had set this subtest at -1.6 to -2.7. Axis I participants tended to to do well on this subtest in comparison to the other subtests with most deviations ranging from 0.1 to 4.4 above the remaining subtests' mean. Over all, the participants in Axis I, Axis I+II, and the control group had very similar average deviations. There were no differences between the two Axis groups while Axis I+II differed from the control on only Object Assembly and Similarities.

Of the subtests that appeared to endorse a diagnosis, attention is brought to Wechsler's scoring system. Many of the ranges include average and above, average and below, and even nearly the entire spectrum of scores. For example, the criteria for Comprehension and Similarities are so broad that not having a hit was nearly impossible. Table 1 demonstrated the importance of a control group. Although Lewandowski et al. (1977) were able to verify the sociopathic profile, they did not have a control group to check validity.

Wechsler (1958) also stated that schizophrenics, like other mentally disturbed individuals, show greater intersubtest variability than otherwise expected. Wechsler reported a study that showed schizophrenics' mean average deviation between scores were 1.91 ($\underline{SD}$ = .60) while "normals'" mean average deviation between scores were 1.43 ($\underline{SD}$ = .33). A deviation of two or more points

on any subtest from the mean of the remaining subtests is practical for most purposes when identifying abnormal deviations. Table 5 shows each participant's mean average deviations. Although most mean average deviations were not as high as Wechsler had originally found, half of all schizophrenic participants had means above 1.7, which is not enough intersubtest variability to separate them from the control group.

Wechsler (1958) added additional criteria to aid in diagnosing schizophrenics. He believed that the sum of Picture Arrangement plus Comprehension was less than Information plus Block Design. One control member, three Axis I inmates, and nine out of 12 Axis I+II inmates obtained the desired sums. Unfortunately, Wechsler did not specify how much less the sum should be. The range for the three groups was 3 points for the control, 1 to 4 points in Axis I, and 1 to 11 points in Axis I+II. Wechsler also postulated that schizophrenic's score for Object Assembly would be "much lower" than Block Design. The six members in the control group averaged a difference of 2.33 points. Five members in Axis I averaged 1.8 points. Four participants in Axis I+II averaged 3.5; however, two of the four inmates had differences of five and six points. From this analysis, the Axis I+II group appeared to support these two additional postulations somewhat better than Axis I or the control. Without a clear understanding of what Wechsler meant by a "much lower" score,

it is impossible to determine if two scaled score points (two-thirds of a standard deviation) would constitute a large enough difference. If that were to be the case, the Axis groups were not different from the control group. As this study reflected, these two additional postulations did not aid in identifying schizophrenics.

Turning from average deviations to the analysis of variance of WAIS-R scaled scores depicted in Table 6, it is shown that the differences between the three groups are minimal. On the Information, Block Design, and Object Assembly subtests, Axis I performed lower than the control group, but Axis I+II was not significantly different from either group. Axis I's mean for Information was 6.8 (Low Average), which was about one standard deviation below the standard mean, and the control group was 9.8 (Average). From this subtest it was possible to postulate that the Axis I group was somewhat less curious or had a lower drive to gain knowledge than the control group (Wechsler, 1958). Given that schizophrenic individuals often have a difficult time filtering out stimuli and thus become sensory overloaded, a low drive in this area may be a natural safeguard to minimize overload (Rasenhan & Seligman, 1989). As noted previously, Information and Vocabulary are highly correlated and large differences in scores are not expected. Wechsler (1981) maintained that score differences between these two subtests of 1.6 or greater were significant. Six members of the

control, three participants in Axis I, and seven members from Axis I+II obtained this difference. Wechsler (1958) believed that if education was sufficient, the discrepancy might stem from a tendency to withdraw from the environment. This researcher postulated that since Axis I+II and the control had more discrepancies than Axis I, perhaps the former groups' withdrawal was for emotional reasons rather than mental processing. Block Design and Object Assembly were the other two subtests that separated Axis I only from the control. Axis I group means for the subtests were 7.41 and 7.75 respectively, or about one standard deviation below the scaled mean. The control group's means were 11.25 and 10.3. Each of these subtests provided insight into an individual's work habits and plan of attack. As in the case of Object Assembly, this subtest can often reveal the individual's mode of perception. A low score on Block Design may indicate hindered abstract thought (Wechsler, 1958).

Scaled scores from Digit Symbol differentiated all three groups of participants. Axis I's mean was about two standard deviations below the scaled mean, Axis I+II's mean was slightly greater than one standard deviation below the scaled mean, and the control's mean was almost one-third standard deviation above the scaled mean. According to Wechsler (1958) low scores may indicate poor concentration, anxiety, and in some cases brain damage. These four subtests, Information, Block Design, Object Assembly, and Digit

Symbol, appeared to demonstrate a disruption in the processing of incoming stimuli in the Axis I group as compared to the control group.

The control group outperformed both Axis groups on the following subtests: Digit Span, Vocabulary, Arithmetic, Comprehension, Similarities, and Picture Arrangement. As could have been predicted from the literature review, the control group's overall higher IQ was expected. There were no significant differences between the Axis groups. Picture Arrangement is often called the social intelligence test although Wechsler (1958) himself did not like the term. Individuals diagnosed as antisocial personality disorder, as in the case of the Axis I+II participants, are commonly thought to perform well on the subtest. However, the Axis I+II group had the lowest mean of all!

Wechsler (1958) noted a relationship between Picture Arrangement and Comprehension. Some claim that Comprehension measures whether or not an individual knows how to react appropriately in a social situation. Picture Arrangement would reveal whether or not the individual would put the knowledge into practice. A lower Picture Arrangement score would indicate the individual would purposely react inappropriately. Wechsler (1981) believed that differences among WAIS-R subtests of 2.5 scaled scores were sufficient in determining critical among subtests. A review of each of

the three groups' scaled scores for these two subtests indicated that 7 out of 12 control group members had lower Picture Arrangement scaled scores. Axis I did not have any members fit this pattern, and two members from Axis I+II had lower Picture Arrangement scaled scores. Based upon this information, the control group would behave more defiantly than either of the Axis groups.

The only subtest that all three groups performed comparably well on was Picture Completion. This subtest assessed an individual's ability to observe one's own surrounding with sufficient awareness. At first, this may seem to contradict the notion that the Axis groups, especially Axis I, were avoiding or were limited in gaining and perceiving information. However, Picture Completion dealt with concrete stimuli in comparison to the previous subtests discussed. Furthermore, the inmates were known for their keenness, especially in regard to human detail and subtle changes in appearance (A. McKenzie, personal communication, February 1994).

Finally, Wechsler (1958) believed differences between Verbal IQ (VIQ) and Performance IQ (PIQ) were important, and a 15 point difference was diagnostically significant. Only a 10 point difference was needed for statistical significance. Wechsler (1958) reported that in most mental disorders, impairment was generally seen in the Performance subtests except for the psychopathic personality disorder. A higher PIQ was generally associated with acting out

behaviors such as those common to sociopaths. A higher VIQ could be attributed to many possibilities such as old age, white collar employment, or even brain damage in addition to mental disorders. Axis I had four participants with the VIQ significantly higher than the PIQ; three of diagnostic significance and one participant with a higher PIQ. Axis I+II had four participants with a higher VIQ; two were diagnostically significant. The control had seven participants with significantly higher VIQ's. Three were diagnostically significant. Neither Axis I+II or the control group had higher PIQs. Since over half of the control group had significantly higher VIQs, perhaps nonmental health factors such as education and career affected the VIQ/PIQ more so than schizophrenia.

In summary, the differences in mean average deviation scores from Axis I, Axis I+II, and the control group were so few that they did not meaningfully differentiate among the three groups. Additionally, all three groups had near equal hits on the schizophrenic and sociopathic profiles, thus were not supportive of Wechsler's diagnostic profiles. As opposed to the average deviations, significant differences were found in the groups' mean scaled scores but not always in the direction that Wechsler proposed. As anticipated from the literature review, the mean scaled scores indicated that the control group had an IQ of over two standard deviations above the Axis groups. Finally, as assessed by these two measures, the added diagnosis of a personality

disorder did not meaningfully differentiate Axis I+II from Axis I.

This researcher believes that the WAIS-R is an excellent tool for measuring intelligence. However, by no means should intelligence be disregarded as an important role in crime. Nevertheless, how was it that David Wechsler found such differences in his 1958 sample, yet so few differences were found in this study between criminals and noncriminals? Is the fine line between vicious criminals and "those who would not dare" beginning to blur? A serious flaw in all the studies cited in this literature review was a failure to provide control samples of noncriminals. Heilbrun (1982) reported on the significance of impulsiveness. Perhaps additional research could focus on impulse control among criminals and noncriminals. Another area that could be examined is a possible relationship between the ability of controlling one's impulses and level of IQ.

REFERENCES

American Psychiatric Association, (1987). The Diagnostic Categories. (pp. 113-118 and 189-201). In J. B. W. Williams (Ed), Quick reference to the diagnostic and statistical manual of mental disorders (3rd. ed., revised). Washington D.C.: Author.

Carvajal, H., Shaffer, C., & Weaver, K. A. (1989). Correlations of scores of maximum security inmates on WAIS-R and Peabody Picture Vocabulary Test-Revised. Psychological Reports, 65, 268-270.

Frank, G. H. (1970). The measure of personality from the Wechsler tests. Progress in Experimental Personality Research, 5, 169-194.

Franken, R.E. (1988). Genes, personality and alcoholism. In P. Curson, C. D. Laughton, A. Mayfield, P. Larimore, B. Salazar & M. K. Hancharick (Eds.), Human motivation (2nd ed.). (p. 303). Pacific Grove, CA: Brooks/Cole Publishing Company.

Heilbrun, A. B. (1982). Cognative models of criminal violence based upon intelligence and psychopathy levels. Journal of Consulting and Clinical Psychology, 50, 546-557.

Heilbrun, A. B. , & Heilbrun, M. R. (1985). Psychopathy and dangerousness: Comparison, integration and extension of two psychopathic typologies. British Journal of Clinical Psychology,

24, 181-195.

Holland, T. R., Beckett, G. E. , & Levi, M. (1981).
Intelligence, personality, and criminal violence: A multivariate
analysis. Journal of Consulting and Clinical Psychology, 49, 106-111.

Hollander, H. E. , & Turner, F. D. (1985). Characteristics of
incarcerated delinquents: Relationship between developmental
disorders, environmental and family factors, and pattern of offense
and recidivism. Journal of the American Academy of Child
Psychiatry, 24, 221-226.

Jakubowsha, B. (1982). Inteligencja i strukura cech
umyslowych przestepcow kryminalnych (sprawcow rozboju i
wlmman. [Intelligence and the structure of mental features in
criminal offenders: Perpetrators of robberies and break ins].
Psychologia Wychowawcza, 25, 176-177. (From Psychological
Abstracts, 1994).

Kaufman, A. S. (1990). Prediction of academic achievement
and relationship of IQ to education. In J. P. Lenney & M. Jaixen
(Eds.), Assessing adolescent and adult intelligence (pp. 18-20).
Boston: Allyn and Bacon, Inc.

Lewandowski, N., Saccuzzo, D. , & Lewandowski, D. (1977).
The WISC as a measure of personality types. Journal of Clinical
Psychology, 33, 285-291.

Medvecky, J. & Kafta, J. (1972). [Psychiatric aspects of

neonaticide committed by mothers]. Ceskoslovenska Psychiatrie, 68, 16-22. (From Psychologic Abstracts, 1984).

Pannain, B., Correra, M., Starace, A. , & D'Alessio, G. (1983). Victimological aspects of involuntary crimes, with particular reference to road accidents and Italian law. Victimology, 8, 53-67.

Rosenhan, D. L. , & Seligman, M. P. (1989). The schizophrenias and personality disorders. In D. Fusting (Ed.), Abnormal psychology (2nd ed.), (pp. 364-381, 492-512). New York: W. W. Norton.

Tupin, J. P., Mahar, D. , & Smith, D. (1973). Two types of violent offenders with psychosocial descriptors. Diseases of the Nervous System, 34, 356-363.

Wagner, E. E. , & Klein, I. (1977). WAIS differences between murders and attackers referred for evaluation. Perceptual and Motor Skills, 44, 125-126.

Wechsler, D. (1958). The measurement and appraisal of adult intelligence. Baltimore: The Williams and Wilkins Company.

Wechsler, D. (1981). Wechsler Adult Intelligence Scale-Revised manual. San Antonio, TX: The Psychological Corporation.

Wechsler, D. (1991). Wechsler Intelligence Scale for Children - third edition manual. San Antonio, TX: The Psychological Corperation.

Weitzel S. L. , & Blount W. R. (1982). Incarcerated female

felons and substance abuse. <u>Journal of Drug Issues,</u> 12, 259-273.

APPENDICES

APPENDIX A

.

DIAGNOSTIC PATTERN ANALYSIS
(Wechsler, 1958)

<u>Schizophrenia</u>

Information... + to ++

Comprehension... + to -

Arithmetic... 0 to -

Digit Span... + to 0

Similarities... + to --

Vocabulary.. ++

Picture Arrangement... - to 0

Picture Completion... 0 to --

Object Assembly.. -

Block Design... 0 to +

Digit Symbol... -

<u>Sociopaths (Antisocial Personality Disorder)</u>

Information.. - to --

Comprehension... 0 to -

Arithmetic... -

Digit Span... 0 to -

Similarities... - to 0

Vocabulary.. 0

Picture Arrangement... ++ to +

Picture Completion... + to 0

Object Assembly.. ++ to +

Block Design... + to 0

Digit Symbol... 0 to -

Key

+   a deviation of from 1.5 to 2.7 units above the mean subtest scores

++   a deviation of 2.8 units above the mean subtest score

-    a deviation of from 1.5 to 2.7 units below the mean subtest score

--   a deviation of 2.8 units below the mean subtest score

0   a deviation of +1.5 to -1.5 units from the mean subtest score

Note: The key has been altered from Wechsler's original criteria to account for interruptions in number continuity.

APPENDIX B

MENTAL HEALTH CONSORTIUM

MHC

DATE: May 09, 1994

TO: Harold J. Nye
        Warden

FROM: Dean E. Fritzler, Ph.D.
        Clinical Director

RE: Research Request

Jennifer Worthen, Mental Health Intern, has submitted a research proposal investigating Criminal Behavior and the WAIS-R. Ms. Worthen is requesting this thesis opportunity to complete the requirement for Master of Science in Clinical Psychology.

Ms. Worthen has reviewed IMPP 06-101 Evaluation and Research (Research Activities) and has written her proposal to meet the required format.

Dean E. Fritzler, Ph.D.
Clinical Director

Harold J. Nye
Warden

Jerome Kapnek, Ph.D.
Mental Health Services Director

Jennifer Worthen
Intern

DEF:mk

cc:file

LARNED CORRECTIONAL MENTAL HEALTH FACILITY
Route 3, Box E • Larned, KS 67550-0280 • (316) 285-6249

Administrative Office: 112 SW 6th Ave, Ste. 302 • Topeka, KS 66603 • (913) 232-1196

APPENDIX C

INFORMED CONSENT

I agree to participate in psychological testing conducted at the Larned Correctional Mental Health Facility for the purpose of research activities conducted by___Jennifer Worthen___ in conjunction with __Emporia State University__.

I understand that I have the right to refuse to participate or withdraw from testing at any time without consequence.

I understand that my name will not be used in any publication and anonymity will be upheld.

I understand that the information gained through the testing procedures will become a part of my permanent record.

Upon request, I shall be informed of the results from this study.

_____   _____
Inmate name and KDOC#   Date

_____   _____
Researcher   Date

I, _____ Jennifer L. Worthen _____, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

_____
Signature of Author

_____8-24-95_____
Date

Comparing Intellectual Performance of
Incarcerated, Violent Schizophrenics to a
General Sample Using the WAIS-R
Title of Thesis Project

_____
Signature of Graduate Office Staff Member

_____8/28/95_____
Date Received