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# A Comparison of Incarcerated and Non-Incarcerated Women Based on the M.M.P.I.

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*Eastern Illinois University*

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Author

A COMPARISON OF INCARCERATED AND  
NON-INCARCERATED WOMEN BASED ON THE M.M.P.I.  
(TITLE)

BY

ROSE MARIE CARTER

**THESIS**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF

MASTER OF ARTS IN PSYCHOLOGY

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY  
CHARLESTON, ILLINOIS

1973  
YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING  
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

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DEPARTMENT HEAD

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### Abstract

The field for research on women offenders provides an extensive opportunity for scientific investigation. Many writers (Gibbons, 1971; Cunningham, 1964; Sutherland, 1968) have discussed the causes of crime and their resulting social implications. Organized mass presentations of the movement of crime among women is negligible. Today female incarcerates make up approximately 11 per cent (Lerner, 1972) of the total number in state and federal penitentiaries. Previous research (Cunningham, 1964) on female felons found poor self-concept, excessive dependency and pathological emotionality to be a consistent pattern in women criminals. Other research (Apfeldorf, 1971; Guze, 1959) found criminal and non-criminal groups could be differentiated using actuarial techniques. The importance of learned behavior and attitudes, especially in relation to the family, was found (Gibbons, 1971) to be especially important in regards to female criminals.

Using non-clinical scales recently developed (Wiggins, 1966) forty incarcerated and non-incarcerated women were compared using the Minnesota Multiphasic Personality Inventory. The subjects were matched for age and education. The mean age of the total subjects was 24.92 and the mean of education for the two groups was 10.5. The subscales used were; Social Maladjustment, Depression, Feminine Interests, Poor Morale, Religious Fundamentalism, Authority Conflict, Manifest Hostility and Family Problems.

It was hypothesized that there would be no significant difference ( $p \leq .05$ ) on the first seven subscales previously mentioned. The  $H_1$  was that a significant difference ( $p \leq .05$ ) would be found on the Family Problems Scale.

The Mann Whitney U test revealed differences at the .01 level for seven of the eight scales. The other scale, Social Maladjustment, was significant at the .05 level. Tables report the z scores, the mean and standard deviation of each scale, and the range of raw scores for each scale.

Incarcerated women were found to have poorer morale, more authority conflict, family problems, and manifest hostility. The non-incarcerated group was found to be less socially aggressive more religiously oriented have more feminine interest and to be more depressed.

The limitations and implications for further research are discussed.

The field for research on women offenders provides an extensive opportunity for scientific investigation, although it is not a new one. As early as 1852 Matilda Wrench published a book in London revealing the conditions of women in prison. Within the following decade Arnould Bonneville de Marsangy wrote from Paris on the comparative morality of men and women. Since 1876 the proceedings of the annual Congress of the American Prison Association has from time to time published articles referring to the construction of prisons for women, the system of discipline suited to a female prison, the woman and the child in prison, reformatories as well as the recreation of and the employment of women prisoners. (Kratz, 1940)

Many writers (Gibbons, 1971; Cunningham, 1964; Sutherland, 1968) have discussed the causes of crime and their resulting social implications. States and cities have undertaken surveys of their criminal patterns and their administration of justice. These frequently have referred to the role of women in crime. Specific cases of women offenders have been studied in detail. Courts devoted exclusively to the trying of women misdemeanants have been created in some cities and their functioning has been scrutinized by research bureaus.

Organized mass presentations of the movement of crime among women, however, are negligible. Criminality in women has been largely neglected as an area of research. In contrast to the extensive literature on the male criminal, very little descriptive research on the female criminal has been produced.



Although female criminals make up approximately 11 per cent (Lerner, 1972) of the total number of people presently incarcerated in state and federal penitentiaries, they have not received much attention from psychological and sociological researchers. Studies on the male prisoners cover a wide range of topics from personality evaluation to physiological reaction to solitary confinement. This volume and range of research on incarcerated women is not available.

The causes of the lack of research on female criminals has recently been studied (Heidensohn, 1968). According to Heidensohn, the apparent lack of interest and studies is remarkable for a number of reasons. "First of all women make up slightly more than 50 per cent of the population of the United States. Therefore the general lack of interest with the potential deviance of approximately half the members of any society is surprising. Even in light of the fact that the percentage of criminals in the total population is much lower for women than men, still a sizeable number exists for study." (p. 142)

Heidensohn further points out another remarkable thing about the lack of research on the criminal women is the upsurge of interest in the changing position of women. "Considerable study has been done of females in relation to a wide variety of psychological and societal aspects. The female deviant and/or criminal has however largely been ignored." (p. 143)

Various studies (Guze, 1959; Apfeldorf, 1971) do indicate that criminal populations can be differentiated from normal

populations on the basis of a number of factors. Some of these factors are sociopathy, alcoholism, and drug addiction. Other writers (Gibbons, 1971; Brown, 1958) who have investigated non-violent crimes indicate that personality of criminal and non-criminal persons do not seem significantly different when measured by actuarial and projective techniques. Several studies (Cunningham, 1964; Fry, 1952; Stanton, 1956) have found differences in criminal and non-criminal groups. One study (Guze, 1959) determined criminality was related to sociopathy, alcoholism, and drug addiction only, but not to a wide range of psychopathology.

In this long term study of the associations between criminality and psychiatric disorders, the researcher began with a systematic psychiatric and social study of a consecutive series of 223 convicted male felons. The objective as stated by the author was "to determine the prevalence and kinds of psychiatric disorders in such a population and to note any possible associations...between psychiatric illness, family history, parental and home experience, delinquency and crime history, school, job, military and marital histories." (p. 129)

An original interview and collection of relevant data was taken. This was supplemented years later by follow up interviews and investigation. The original study of the convicted criminals was supplemented with interviews with relatives, systematic and comprehensive collection of criminal records, and an extensive psychiatric study of the index subjects, and first

degree relatives.

The interview with the convicted felon included a history of current and past illnesses and injuries, a description of hospitalization and operations; and a detailed symptom inventory designed to elicit manifestations of anxiety neurosis, hysteria, obsessional neurosis, schizophrenia, manic-depressive disease, organic brain syndrome, alcoholism, drug dependency, sociopathy, and homosexuality. In addition, a detailed family history of psychiatric difficulties and a history of parental home experiences was obtained. The interview also included sections dealing with school, job, marital, and military history. A diagnostic criteria was set up before the interviews were analyzed. In general these criteria were selected because they required treatment of factors which interfered with the subject's normal life.

The findings of this study refute the popular belief that a wide spectrum of psychopathology accompanies criminality. Sociopathy, alcoholism, and drug addiction were the only disorders found more frequently among the index subjects (felons), than in the general population. The findings however did not include differences in family, school, job, marital and military history. The author found that this information was too varied to report or analyze. Although this is disappointing, because of the need for a study of these factors, and because the information was collected over a time span and in relation to close relatives, the findings are still important because felons were found to be different from a general population in relation to

7.

the three factors mentioned earlier.

The study reports that the absence of schizophrenia, manic-depressive disease or organic brain syndromes raises questions about the adequacy or relevance of the many discussions concerning psychiatric illness and criminal responsibility.

Discriminating between offenders and non-offenders was found possible by the use of the M.M.P.I. (Apfeldorf, 1971). Two groups of older institutionalized male Veterans Administration hospital patients were administered the M.M.P.I. The tests were then scored on four scales; Judged Manifest Anxiety (JH), Hostility, Ego Overcontrol, and Bimodal Control to evaluate the effectiveness of these scales in discriminating between subjects with records of offense from those with no record of offense. Group differences between offenders and non-offenders were most reliable for expressed hostility, and the JH scale was the most efficient measure of this characteristic. The other factors were found to be significant but not as reliable as the JH scale. This is one research project which successfully differentiated offenders and non-offenders using an actuarial technique.

The third study that found differences in criminal and non-criminal groups (Gibbons, 1971) was based on opportunities for criminality. This investigation examined factors which predisposed a person to criminal acts. The conclusion was that if a person was not exposed to these factors the probability of that person committing a criminal act was very low.

Causes of adult crime have been the focus of a great number

of recent studies (Jeffery, 1956; Parker, 1965; Turk, 1969; Simon, 1968).

Three main currents of work in the area of criminal etiology in the last twenty years can be identified. (Gibbons, 1971) First is Sutherland's theory of differential association; second, specific and independent studies of certain offender patterns; and third, research on offender typologies.

Sutherland (1968), has investigated the adult criminal in the past twenty years, and theorizes that the criminal engages in deviance because of "an excess of internalized conduct definitions favoring violation with carriers of antisocial standards." (p.217) Sutherland found that criminal activity is the result of being exposed to persons that have antisocial standards, and from this association the person learns and incorporates the antisocial attitudes that lead to criminal acts.

This idea of learned behavior was studied recently (Gibbons, 1971) in a group of 300 adult criminals. Etiology was found to be the result of situational pressures, and opportunities for criminality. The environment coupled with internal and external stresses was found to lead to criminal acts. This study is interesting in that it points out the environment must be one that provides opportunity for the criminal activity.

Males were subjects in the three studies (Sutherland, 1968; Apfeldorf, 1971; Gibbons, 1971) mentioned above. Although it is not the intent, to indicate that what has been found about male criminals can be applied to female criminals, the previous studies were reported to provide background information in relation

to criminal populations.

Research completed recently (Cunningham, 1964) on the causative factors in female criminality found consistent patterns and characteristics of the offender. The study points out that the female criminal must be understood in the context of her social role. Dependence, sexual attractiveness, subordination to males and repression of aggression all may contribute maladaptive behavior and thinking disorders, which may lead to crime. The characteristic factors found in the female criminal were based on personality research and observation of selected prisoners. The first factor found was poor self-concept, "reflecting the female offender's heightened sense of guilt, her helplessness, her unhappiness and her loneliness." (p. 37)

A second factor was that of dependency, and attribute fostered in all women by custom, cultural training and biological differences, which seem to become more marked in the offender group.

A third factor was pathological emotionality to emotional stimulus, and a general lack of control and understanding of the emotions.

A fourth factor was biologically based behavior. Cunningham's study points out that the female is under the additional pressure which can be created by menstruation, pregnancy, and menopause. The effects of these biological changes in criminal women are frequently underestimated or totally ignored.

Besides pointing out these characteristics of the female

offender, the study emphasizes that the female criminal goes against society's concept of a woman and their defiance of their role and special responsibility is usually seen as particularly deviant, pathological and threatening.

It is still the case that the ratio of convicted males to females is approximately eight to one. Cunningham states, "At the present time women tend to become involved in economically based crime such as check casing, shop lifting, and prostitution." (p. 41)

Many authorities agree with Dr. Otto Pollack that the actual crime rate does not reflect the true extent of female crime (Pollack, 1950). Pollack believes that if courts and police would become more objective in booking and convicting women that the ratio of male to female offenders would approach one to one.

Statistics compiled by Cunningham (1964) show that crime among women is increasing. Another change in the pattern of female criminality found in this study is that women are becoming involved in crimes of a more violent nature. Cunningham, in reviewing the reasons for incarceration of female offenders in federal penitentiaries found a significant increases in violent crimes, but the majority were in prison for passive-economically based crime.

One research project (Stoffer, 1969) sought to discover the effect of environment on female prisoners. A behavioral checklist was used to determine the decrease in physical and verbal acting out before and after the change in the environment. Female

prisoners showed the expected behavioral improvement with the increased staff interest, better living conditions, earlier parole dates, emphasis on feminine role and the measure of self-government that was introduced during the project.

One examination (Brown, 1958) of six cases of convicted women showed some surprising similarities between them. All of the women were electrocuted for their crimes. Of the six women none of them were members of criminal gangs and none had long criminal records. In each case the crime was murder. Greed was invariably present but usually as a secondary motive. With the exception of one, each had led a highly irregular sex life, a fact which counted heavily against them during their trials. None of these women acted alone, but each had one or more confederates. Only one went unaccompanied to the chair. In four of the six cases, an illicit affair ended in the execution of both lovers.

The author states that each woman was a highly complex individual, capable of giving and inspiring love, devotion and friendship. "None was guiltless, but it is debatable whether the verdict of first-degree murder brought against each was justified. In every case, the folly and stupidity of the crime is almost beyond belief, yet the women involved were all of superior intelligence. Unfathomed, obsessive drives seem to have temporarily stripped them of any semblance of rational behavior - so much so that for a while each woman slipped into a world of grotesque fantasy from which she acted." (p. 97)



Most of the trials took place in the Fifties. The newspapers gave each a nickname and recounted the details of her crimes. "Shoving, struggling crowds attended their trials and sometimes clapped and cheered wildly as the death sentence was passed." What these women ate for their last meals was faithfully recounted. Their pictures hit the front page of most newspapers in the country, along with how they dressed for the execution. This all illustrates that women who commit very socially deviant acts attract a great deal of attention, and seem from these six cases to arouse a great deal of public anger and fear. An interesting side note of this book, is the author's comment that a moderate estimate of the cost of each execution with its various trials and appeals, was well over a million dollars.

The Minnesota Multiphasic Personality Inventory (M.M.P.I.) has been used in a number of studies (Fry, 1952; Panton, 1958; Stanton, 1956; Levy, 1954; Freeman, 1952) of criminal populations.

One study (Fry, 1952) found significant differences between M.M.P.I. responses when comparing prison inmates and college students. 121 male and 115 female college students were compared to 114 male and 112 female state prisoners. It was found that frustration to external influences was greater in males than females, and greater in females and in prisoners. Responses of the two groups of females to M.M.P.I. questions showed female prisoners over female college students in depression, psychopathic deviance, sexual interests, and paranoia.

Another research study (Panton, 1958) revealed a distinct

prison population response set on the M.M.P.I. 1,313 prison inmates were tested, and a profile configuration was found. No marked difference between the profiles of six major crime classification groups was found.

In another study (Stanton, 1956) 100 white and 100 Negro state prison inmates were tested using the M.M.P.I. No significant difference in scores between the two racial groups was found. However "very significant differences on all scales were found between the inmates and the normal on whom the test was standardized." (p. 219)

The M.M.P.I. has also been the testing instrument used in a number of studies on adjustment to prison (Levy, 1954; Edwards, 1964) and recidivism (Freeman, 1952; Mandel, 1966; Panton, 1963).

From the studies cited above, it is evident that the M.M.P.I. is a useful and reliable testing instrument to discriminate criminal and non-criminal populations. It is also clear that the item pool allows for testing a number of variables.

The second point of interest is how criminal and non-criminal women differ. Again research cited supports the hypothesis that consistent patterns and characteristics of female felons exist. The patterns found (Cunningham, 1964) in the female criminal were poor self concept, excessive dependency and pathological emotionality. Other researchers (Gibbons, 1971; Sutherland, 1968) pointed out the importance of learned behavior and attitudes especially in relation to the family.

This particular study attempted to add a small portion

of information to the area of study of the female criminal. The M.M.P.I. was administered to a group of incarcerated and normal non-incarcerated women.

Using non-clinical scales (Wiggins, 1966) recently developed, the responses were scored for validity, social maladjustment SOC, depression DEP, feminine interests FEM, poor morale MOR, authority conflict AUT, family problems FAM, religious fundamentalism REL, and manifest hostility HOS. These scales were chosen for their obvious relevance to criminality, and their possible ability to discriminate criminal and non-criminal populations. These non-clinical scales were developed to be internally consistent, moderately independent, and representative of the major substantive clusters that appeared to exist in the total M.M.P.I. item pool.

This study tested the following hypothesis.  $H_0$  There will be no significant ( $p \leq .05$ ) differences between incarcerated and non-incarcerated subjects on the following subscales:

1. Social Maladjustment
2. Depression
3. Feminine Interest
4. Poor Morale
5. Religious Fundamentalism
6. Authority Conflict
7. Manifest Hostility

$H_1$  Incarcerated subjects will score significantly higher ( $p \leq .05$ ) than non-incarcerated subjects on the Family Problems subscale.

### Methodology

Subjects Answer sheets to the M.M.P.I. of forty incarcerated women currently imprisoned at the Illinois Reformatory for Women at Dwight, Illinois were scored using the following scales; social maladjustment, feminine interests, authority conflict, family problems, manifest hostility, depression, poor morale, and religious fundamentalism.

Subjects were the last forty consecutive admissions to the Illinois Reformatory for Women and forty non-incarcerated women matched with the index subjects for age, and education.

The age range for the incarcerated group was from 17 to 40. The average age was 23.5. The age range for the non-incarcerated women was from 17 to 42. The average age was 26.35. The difference is due to a three year allowance in the selection of subjects.

The educational range for the non-incarcerated women was from a low of only grade five completed to a high of high school and 40 semester hours of college completed. The average education completed for the incarcerated women was 9.98 years of schooling. The educational range for the non-incarcerated was from grade seven completed to one year of college completed. The average educational level of the non-incarcerated group was 11.02. The difference is due to a two year allowance for subject selection.

Crime classification for the incarcerated women was based on the presence or absence of physical force needed to commit the crime. There were twelve criminal acts reported. The crime and the number of subjects who committed the crime are included in Table 1.

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Insert Table 1 about here

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Testing Instrument The Minnesota Multiphasic Personality Inventory (Hathaway, 1951) was used to provide an objective assessment of some of the major personality characteristics that affect personal and social adjustment. This test consists of 566 items which the subjects mark true or false, or may leave unanswered. Validity scales and nine other scales corresponding to abnormal behavior have been extensively used for personality evaluation. New scales have been developed and validated in various research projects. Reliability and validity of this testing instrument has undergone intensive research over a number of years.

Wiggins (1966) developed the scales used for scoring the responses in the present study. His scales were so constructed to clarify the content of the M.M.P.I. item pool, and regroup items for the purpose of developing a set of scales designed to be internally consistent, moderately independent and representative of the major scales of the original scoring. Using

TABLE 1  
Crime Classification

Crime	Number of Ss who committed offense
<b>Violent</b>	
Involuntary Manslaughter	2
Battery - (knife)	4
Voluntary Manslaughter	7
Murder	1
Armed Robbery	7
Robbery	2
<b>Non-Violent</b>	
Theft over \$150	5
Deceptive Practices	4
Forgery	5
Drug Delivery and Intent	1
Possession of a Drug	1
Driving without a license	1

point biserial correlations the new scales were developed. The original M.M.P.I. scoring scales numbered 26, Wiggin's study provided 13 scales eight of which will be used in this investigation. A personality description of character traits accompanies each scale, and this will be used to yield a description of the two groups.

Procedure Since permission could not be obtained to test presently incarcerated women at the Illinois Reformatory, test results were used from previous testing. Every woman entering the Illinois Reformatory is subject to a battery of tests, one of which is the M.M.P.I. The answer sheets from the last forty consecutive admissions of this diagnostic test were obtained and rescored using the Wiggins scales previously mentioned. Information for matching the incarcerated and non-incarcerated women was also obtained from records and documents made available for research.

Non-incarcerated women matched for age, and years of school satisfactorily completed were then contacted and tested. Their answer sheets were then scored using the same scales. These non-incarcerated subjects were given the usual instructions for completing the M.M.P.I., and told only that their cooperation was needed for help in completing a thesis. They were not told that their responses were to be compared with a criminal population.

Statistical Analysis The Mann Whitney U Test (McGuigan, 1968) was used to examine the difference between the incarcerated and

non-incarcerated subjects.

Raw scores were placed in chronological order and then ranked. Then using the Mann Whitney U Test the probability of difference was determined. This test determined the acceptance or rejection of the  $H_0$ .



## Results

Responses of the incarcerated and non-incarcerated groups were compared on each of Wiggin's eight subscales. The test of significance was made using a  $p$  of .05. Difference in the eight scales were significant at the .01 level for seven scales. The results are presented in Table 2.

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Insert Table 2 about here

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From the tabled data it can be seen that the incarcerated women scored higher on the scales of Poor Morale, Authority Conflict, Family Problems, and Manifest Hostility. A negative  $z$  score means that the incarcerated scores were higher than the non-incarcerated scores. A positive  $z$  score means that the non-incarcerated scores were higher than the incarcerated scores.

Again referring to Table 2, Social Maladjustment, Depression, Feminine Interests, and Religious Fundamentalism were higher in the incarcerated groups.

The Mann Whitney U test pointed out significant differences in both directions of the hypothetical mean arrived at by ranking the raw scores. The range of scores for the two groups are also worth noting. These are presented in Table 3.

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Insert Table 3 about here

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Significant differences can be seen on all the scales by referring to the  $z$  scores. Interpretation of these results must

TABLE 2

## Mann Whitney Results of Raw Scores

Scale	U	z	p
1. SOC (Social Maladjustment)	1,066.5	2.579	.05
2. DEP (Depression)	1,281.18	4.806	.01
3. FEM (Feminine Interests)	1,253.0	4.66	.01
4. MOR (Poor Morale)	330.5	-4.794	.01
5. REL (Religious Fundamentalism)	1,064.5	3.138	.01
6. AUT (Authority Conflict)	82.5	-7.114	.01
7. FAM (Family Problems)	509.0	-3.192	.01
8. HOS (Manifest Hostility)	2.5	-7.945	.01

TABLE 3  
Range of Scores

Scale	Low Score	High Score
<b>Non-Incarcerated</b>		
1. SOC	0	20
2. DEP	0	26
3. FEM	9	22
4. MOR	1	19
5. REL	0	11
6. AUT	1	17
7. FAM	2	10
8. HOS	4	15
<b>Incarcerated</b>		
1. SOC	8	19
2. DEP	7	22
3. FEM	8	21
4. MOR	9	19
5. REL	3	11
6. AUT	8	18
7. FAM	4	13
8. HOS	12	24

be made in light of the direction and meaning of the scale (Wiggins, 1966).

The means and standard deviations were calculated for each scale. These results are in Table 4.

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Insert Table 4 about here

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Age and education were tested for significance using t tests. Age differences between the two groups were found to be insignificant ( $t=.156$   $p. > .80$ ). Educational differences, using a t test designed for heterogenous variances, were found to be significant ( $t=3.805$   $p. < .01$ ). The range and variability of education for incarcerated women was significantly greater than for the non-incarcerated.

TABLE 4  
Means and Standard Deviations  
of Each of the Scales

Scale	Incarcerated		Non-Incarcerated	
	Standard Deviation	Mean	Mean	Standard Deviation
1. Social Maladjustment	3.26	13.52	11.12	4.39
2. Depression	4.35	15.25	9.77	5.42
3. Feminine Interests	3.09	13.70	16.90	2.93
4. Poor Morale	2.26	13.27	10.00	3.82
5. Religious Fundamentalism	1.56	5.45	6.32	2.36
6. Authority Conflict	2.63	15.95	8.60	3.24
7. Family Problems	2.26	7.95	6.47	1.93
8. Manifest Hostility	3.14	16.20	9.42	2.72

### Discussion

The hypothesis (H<sub>0</sub>) was rejected. Significant differences were found on all of the scales. The H<sub>1</sub> was accepted.

The differences between incarcerated and non-incarcerated women in their responses to the eight scales seem to be consistent with some of the findings of earlier investigations (Guze, 1959; Apfeldorf, 1971; Jeffery, 1956) that criminal and non-incarcerated populations can be differentiated in their responses to actuarial tests.

An earlier study (Gibbons, 1971) found crime to be the result of learned behavior and situational pressure. The differences on scales measuring authority conflict, family problems, and manifest hostility particularly reflect the element of learning.

One study (Cunningham, 1964) which emphasized the female criminals poor self concept and dependency was not found in this study as non-incarcerated women scored higher on scale 2 - depression, Scale 4 however supports the study which did reflect the poor self concept of the incarcerated women. The personality picture of the two groups becomes more evident in studying all eight scales. These scales will be discussed in relation to the base study (Wiggins, 1966).

The incarcerated women scored higher on four scales - Poor Morale, Authority Conflict, Family Problems and Manifest Hostility. The incarcerated sample then in relation to Scale 4 - Poor Morale - reflected lack of self-confidence, more despair, and tendency to apathy. On Scale 6 - Authority Conflict -

incarcerated women revealed feelings of seeing people as unscrupulous, dishonest, hypocritical and motivated by personal profit. The higher scores on this scale by the incarcerated women reflect the groups belief that "everyone should get away with whatever she can." (p.13)

The higher scores on Scale 7 - Family Problems - reveals that the incarcerated women more often came from an "unpleasant home life characterized by a lack of love in the family and parents who were unnecessarily critical, nervous, quarrelsome, and quick tempered." (p. 13)

Lastly incarcerated women scored higher on Scale 8 - Manifest Hostility. This scale reveals "sadistic impulses and a tendency to be uncooperative and retaliatory in interpersonal relationships." (p. 13) The direction of the scale indicates that the incarcerated women would have more of these characteristics.

Non-incarcerated women scored higher on the following; Scale 1 - Social Maladjustment, Scale 2 - Depression, Scale 3 - Feminine Interests and Scale 5 - Religious Fundamentalism.

Scale 1 corresponds roughly to the popular concept of "introversion - extroversion". The non-incarcerated women showed more of a tendency to be shy, reticent, reserved and non-assertive.

Scale 2 - Depression - showed that the non-incarcerated group was more prone to experience guilt, regret, worry and unhappiness. The results of this scale also reveal that the

non-incarcerated women were more anxious and apprehensive about the future.

Statistical results of Scale 3 - Feminine Interests - show that non-incarcerated women show more preference for liking feminine games, hobbies, and vocations. The significantly lower score for the incarcerated women would indicate that such a preference is not present.

Non-incarcerated women also scored higher on Scale 5 - Religious Fundamentalism. This indicates that the sample group more often saw themselves as "religious, church goin people who accept as true a munber of fundamentalist religious convictions. They also tend to view their faith as the true one." (p. 13)

#### Limitations of the Study

The most obvious limitation of this study is the size of the sample. Due to restrictions on research in this area, it was impossible to obtain a larger sample. Forty index subjects is, however, a small sample.

Another limitation of the study was it's narrow reflection of the personality of the criminal population. Only eight specific areas of personality were investigated. The wide scope of etiology of criminal populations was not explored.

The significant differences in education between the two groups should be seen as a definite limitation of this study. Educational differences were not successfully controlled in this study.

A significant factor which was not considered in this study was race. Subjects were not matched for race, and other studies have indicated race as a significant factor in crime.



Finally this study did not include an extensive study of the background information on each subject. More extensive information might have been helpful.

#### Implications for further research

A number of possibilities for further investigation are suggested by the limitations of this present study. First, the sample size could be increased..Secondly, this study could be repeated using male felons and non-incarcerated men, dropping ofcourse Scale 3 - Feminine Interest.

Education as a variable should be more controlled in future studies. The factor of race should be explored as a matching variable in further studies. The results of this study could possibly be used as a springboard for a research study of delinquent females. The scales could be developed and studied to determine which young females would go on to be adult criminals. Further research of the scales could determine recidivism in presently incarcerated women. In addition a research of the scales might be used to help in determining response to rehabilitation.

Use of other statistical procedures - factor analysis - might prove fruitful. In addition raw scores could be investigated in future studies to examine the relationship of the scale to the crime.

Lastly, from a humanitarian point of view, perhaps the most significant research effort would be an investigation of the scales as a counseling tool for rehabilitative purposes.

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