THE FEMALE CHRONIC OFFENDER: EXPLORING

BIO-HISTORICAL AND OFFENSE PATTERN

DIMENSIONS FOR INCARCERATED FEMALE FELONS

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ABSTRACT

Using a data base composed of information from the records of 1076 female felons incarcerated in Florida correctional institutions, the bio-historical and offense pattern characteristics of female chronic offenders were compared with those that have been suggested by studies of male chronic offenders. Further, discriminant analysis techniques were used to compare the chronic with the non-chronic female offenders contained in this prison sample. Using the findings from research on male chronics as well as assumptions generated by the "convergence hypothesis" of female criminality, six of seventeen hypotheses were confirmed indicating that female chronic offenders are more different from than similar to their male counterparts. Female chronics were different from non-chronics in ways unique to their gender in that they: reported higher levels of education, had lower IQs, were more likely to come from broken homes, had less family criminality, had experienced less spouse abuse, committed fewer violent crimes, and had fewer co-defendants of similar gender. Like their male counterparts, chronic female offenders tended to: be younger and single at first arrest, report more problem psychoactive substance use, commit more serious offenses, be more often of minority group status, and commit their offenses without co-conspiritors.

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Although there has been increased interest over the last two decades in understanding, prosecuting and incarcerating career criminals, there is still controversy regarding the usefulness of this concept and problems with the development of an operational definition (Inciardi 1975; Blumstein, Cohen, Roth, and Visher 1986; Gottfredson and Hirschi 1986; Blumstein, Cohen, and Farrington 1988; Gottfredson and Hirschi 1988; Tittle 1988; or Hagan and Palloni, 1988). Nevertheless, there are numerous contentions in the literature that a small percentage of the offender population is responsible for a disproportionate amount of crime. Several studies drawing data from cities and regions throughout the United States show that approximately 14 percent of the known offenders account for almost one-half of all reported crime (Mednick and Christiansen 1977; Cohen 1984; Dunford and Elliot 1984; Hamparian, Davis, Jacobson, and McGraw 1985; Tracy, Wolfgang, and Figlio 1985; Wilson and Herrnstein 1985; Shannon 1986; U.S. Department of Justice 1987; U.S. Department of Justice 1989).

Absent from analyses of high rate offending has been any substantial research on females. Although they still account for a relatively small proportion of all known offenders, as with males there exists a subset of individuals with long and serious offense histories. With so little known about their biohistorical backgrounds and offense patterns many assume that the characteristics of high rate female offenders are similar to those of their male counterparts. The purpose of this study is to begin an examination of this assumption.

The Career Criminal Defined

Labeled career, chronic, habitual, hard-core, high rate, recidivist, or repeat offenders there were no generally accepted definitions for these terms, and thus they have often been used interchangeably and also employed to refer to different patterns of offense behavior.

The most commonly used definition calls for a minimum of five arrests or other police contacts (U.S. Department of Justice 1983; Blumstein, Farrington, and Moitra 1985; Hamparian, Davis, Jacobson, and McGraw 1985; Tracy, Wolfgang, and Figlio 1985; Blumstein, Cohen, and Farrington 1988; Trager, Clark, and Mangelsdorf 1988). Other definitions, (e.g. Williams 1980) have included additional background variables such as employment status, age, offense types, or drug use. The use of the term "career" has often been associated with definitions which included elements of legitimate careers such as specialization, production of stable income, professional skills and status advancement (Letkemann 1973). The more developed definitions (Blumstein, Cohen, Roth and Vishner 1986; Rolph and Chaiken 1987) also included measures of persistence (how long the offender has been committing crimes) and lambda or offense velocity (how many crimes the offender commits in a given period of time).

Chronic Offender Profile

For the purposes of this study, we have chosen to use the name "chronic offender". We apply this term to those who have been formally arrested at least five times, using it because it was the most straight forward of the labels described above. That is, it denotes persistence and a lack of deterrence by arrest without the conceptual baggage of career, habit, or recidivism. The two dimensions of this profile considered here were bio-historical background and offense patterns.

Biohistorical Background

Most of the research on chronic offenders has been done with the goal of finding measurable variables associated with a chronic offender profile to be used to selectively incapacitate through more vigorus prosecution and harsher sentencing. The ethical and legal dilemmas associated with using most bio-historical variables such as minority group status to influence prosecution and sentencing decisions has resulted in less research attention being given to social backgrounds and more to offense patterns. Regarding the variable of minority group status, there have been mixed findings. Most current studies have found minority groups to be overrepresented in chronic offender samples (Piper 1985; Warren and Rosenbaum 1986; U.S. Department of Justice 1989), while earlier research did not (Petersillia, Greenwood, and Levin 1978; Miller, Dinitz, and Conrad 1982). Thus, while Peterson and Braiker (1980) found that black chronics showed more specialization and lower offense velocities, Blumstead, Cohen, Roth, and Visher (1986) reported that the black/white lambda ratio was approximately equal for all crimes except robbery and other selected violent offenses, in which case the lambda ratio was approximately two to one.

Employment history and substance abuse have been shown to be strongly and consistently related to chronic offending and were the only two bio-historical variables considered for use on selective incapacitation profiles. Research has shown that sporatic employment and unemployment has been related to chronic offending, and further that long periods of unemployment increase offense velocity (Petersillia, Greenwood, and Levine 1976; Langan and Greenfeld 1983; Blumstein, Cohen, Roth, and Visher 1986). It was also evident that dependency on psychoactive substances was a motivation for high rate offending, particularly for property crimes, and further, that lambas for current, multiple drug users, and those who began using as juveniles were

two to six times higher than for others (Petersillia, Greenwood, and Levine 1976; Peterson and Braiker 1980; Langan and Greenfeld 1983; Blumstein, Cohen, Roth, and Visher 1986).

Research focusing on other bio-historical variables shared by chronic offenders were conspicuously absent from the literature except Petersillia, Greenwood, and Levine (1976) who found their sample of chronic offenders to be like more general offender populations in that they averaged an eighth grade education, normal IQs, and came from lower socioeconomic backgrounds which often included broken homes and/or criminality in the family. Their study went on to identify two basic types of habitual offenders. Two-thirds of their sample were classified as "intermittents" in that they did not consider themselves professional criminals, and their participation in crime was primarily opportunistic. The other one-third maintained criminal self concepts and their crimes were purposeful and relatively better planned. This group committed ten times more crime than the intermittents. They also committed more serious crimes as juveniles, were less likely to use accomplices, committed more profitable crimes, were more likely to be poly-drug users, were better employed, had experienced more violence in their personal lives, and were slightly more likely to use violence in the commission of their crimes.

Offense Patterns

Most chronic adult offenders have lengthy and serious juvenile offense histories (Haapanen and Jesness 1982; Langan and Farrington 1983; Hamparian, Davis, Jacobsen, and McGraw 1985; Winterfield 1986). They averaged 14 years old at first arrest, and were often incarcerated for their juvenile offenses (Petersillia, Greenwood, and Lavin 1978; Hamparian 1985). The earlier their criminal career began, the higher was the velocity of their offending (Miller, Dinitz, and Conrad 1982; Blumstein, Cohen,

Roth, and Visher 1986). In one longitudinal study, three-fourths of the chronic juvenile offenders became adult offenders and eventually almost two-thirds of the sample were incarcerated in state institutions (Hamparian, Davis, Jacobsen, and McGraw 1985).

The interrelated variables of age and prior offenses were the most powerful predictors of continued adult chronic offending. The older the offender, the less frequently they committed crimes (particularly violent offenses) and the less they were returned to prison (Petersillia, Greenwood, and Lavine 1978; U.S. Department of Justice 1989). Further, high velocity offending has been found to be strongly related to both increasing seriousness and criminal career longevity (Petersillia, Greenwood, and Lavine 1978; Piper 1985).

There are mixed results about whether or not chronic offenders tend to specialize in their criminal careers. The U.S. Department of Justice (1989) reported that within three years of release from prison, only 32 percent of the burglars, 25 percent of the drug offenders, and 20 percent of the robbers were rearrested for the same offense. Beyond that, released rapists were 10.5 times more likely to be rearrested for rape, and released murderers were five times more likely to be rearrested for murder. Although specialists have higher offense velocities, non-specialists have more longevity (Miller, Dinitz, and Conrad 1982; Blumstein, Cohen, Roth, and Visher 1986). However, most studies of chronic offenders have found little evidence of specialization, not even within the broad categories of violent and property crime. (Petersillia, Greenwood, and Levin 1978; Blumstein and Cohen 1979; Miller, Dinitz, and Conrad 1982; Piper 1985; Gottfredson and Hirschi 1986).

Gender and Chronic Offending

Few studies have considered female chronic offenders and only one has reported detailed longitudanal data. It has long been believed that gender role socialization and differences in parental supervision for boys and girls have limited females' access to criminal careers other than prostitution (Hoffman-Bustemante 1973; Steffensmeier 1983). When they have been compared to their male counterparts, females offenders have been found much less likely to be chronic (Hamperian, Davis, Jacobsen, and McGraw 1985; Piper 1985; Tracy, Wolfgang, and Figlio 1985; U.S. Department of Justice 1989). However, the U.S. Department of Justice (1989) did report that females with greater than six prior arrests were just as likely to be rearrested within three years of release from incarceration as were males with more than six arrests. Apparently fewer females become chronic offenders, but some of those who do are much like their male counterparts.

The one study that did focus exclusively on female chronic offenders confirmed the contention that they can be involved in prolonged and serious criminal careers. Warren and Rosenbaum (1986) obtained complete criminal histories on 159 females as juveniles from 1961 to 1969 and followed their criminal careers into adulthood ending in 1981. As had been previously found in other studies with all male samples, most were from lower socioeconomic backgrounds, minorities were overrepresented and there was little evidence of crime specialization. Almost one-half of the sample had been arrested for serious crimes such as selling hard drugs or weapons, aggravated assault, kidnapping, armed robbery, and murder. Over two-thirds had more than three adult arrests, almost one-half had three or more adult convictions, 10 percent of the female sample accounted for 41 percent of the adult convictions, 60 percent were incarcerated at least once as adults, and 15 percent spent time in state

prisons. Contrary to prevailing stereotypes, the authors concluded that like males, females who become involved in crime early (even status offenders) often become adults who commit increasingly more serious offenses.

(TABLE 1 ABOUT HERE)

Suggested Hypotheses

Table 1 summarizes the hypotheses that have been suggested by past research on primarily male chronic offenders. Although there were mixed results on minority group status, the more recent findings (Piper 1985; Warren and Rosenbaum 1986; U.S. Department of Justice 1989) were used to construct hypothesis 1.1. In addition to these variables, we have added four more hypotheses suggested by the convergence hypothesis of female criminality (Simon, Martin, Miller, and Aigen 1980) that could be tested using the data from this study. This theory argues that crime rate differences between the sexes will decrease as gender roles approach equality. We have further hypothesized that if female offenders are becoming more like their male counterparts, we may find evidence of a more predatory female chronic offender who is more likely to be single, use a weapon during the commission of her offense, work alone, or when committing offenses with others, be involved in crime groups of the same gender.

METHODOLOGY

Despite the biases that must exist in any sample of incarcerated felons due to criminal justice process decisionmaking, an attempt was made to determine the extent to which these female offenders fit the patterns reported by past research on

primarily male subjects, and to discover which variables were most critical in distinguishing female chronics from the non-chronics in this sample. This was done by testing 17 bio-historical and offense pattern hypotheses using data on these variables that were contained in a previously compiled data base (Blount, Danner, Vega, and Silverman 1991). These data were the result of an effort to obtain a 100 percent sample of all females incarcerated in Florida prisons during the months of August thru December 1985 based on a review of the institutional records maintained on each inmate by the Department of Corrections. While data collection continued for over a year to allow information time to arrive and be filed, some files remained too incomplete for use. The final sample size was 1076, representing 90 percent of the total population.

Given the definitional considerations discussed above, the 1076 cases were arranged in two groups; chronics: those with recorded offense histories of five or more misdemeanor or felony arrests, including the instant offense for which they were currently serving time (N=351), and non-chronics: those with less than five recorded arrests (N=725). Table 2 lists the 17 variables tested and the coding used in these analyses.

(TABLE 2 ABOUT HERE)

Analyses of these hypotheses were to answer three questions regarding each variable: 1) How are female chronic offenders different from or similar to female non-chronics ? 2) Does the comparison yield results that would be expected if female chronics are similar to male chronics ? 3) Which variables were the most powerful discriminators between the female chronic and non-chronic groups.

For a hypothesis to be confirmed, we must find that there is a significant difference

between the chronic and non-chronic groups in a direction predicted by past research on male offenders, or a non-significant difference where previous studies had found male chronics and non-chronics to be similar.

RESULTS

A stepwise discriminant analysis was performed to discover differences between the chronic and non-chronic female inmates in regard to their bio-historical and offense pattern characteristics. Each variable's inclusion in further analyses was based on its Wilk's lamba value (an inverse measure of group discriminating power) and its equivalent F ratio. The initial discriminant analysis indicated that one discriminant function separated the chronic and non-chronic groups. Due to a low F value or tolerance level, four of the seventeen comparison variables were not included in the final equation.

Table 3 shows the characteristics of the discriminant function. The function had a high canonical correlation coefficient and a statistically significant Chi-square value. Based on the results of the initial discriminant run, a second refined discriminant analysis was performed after excluding the four variables that were not included in the initial discriminant equation. The reduced set of variables was at least as good a group discriminator as the larger set from which it was distilled. Although the final discriminant analysis was based on the thirteen predictor variables surviving the stepwise procedure, a conservative test of significance was also employed involving the original seventeen variables used in the analysis. Despite the conservative test of significance, the discriminant function remained statistically significant ($p < .0001$).

Table 4 displays the structure matrix of the pooled within-group correlations between the 13 discriminating variables and the canonical discriminant functions for the second run discriminant function. The high loading salient variables were: 2.4 (AFAA) Age at First Adult Arrest, 1.7 (RDU) Reported Drug Use, 2.8 (SIO) Seriousness of Instant Offense, and 1.1 (MGS) Minority Group Status. The higher the absolute value of the variable structure coefficent, the better that variable distinguished between the chronic and non-chronic groups. The chronic group centroid was 0.26668, and the non-chronic group centroid was -0.55084. This difference between the groups' centroids demonstrated that for the thirteen predictor variables listed in Table 4, the two groups show a sizeable difference in their average score for the discriminant function.

(TABLES 3 AND 4 ABOUT HERE)

Classification Results

To examine the classification power of the discriminant analysis, an identification of the most likely group membership for each subject was made based only on their value for each of the discriminating variables comprising the derived function, with the variables' discriminant function weights taken into account. Since the sizes of the two groups differ (chronics = 351, non-chronics = 725), the proportion of cases falling into each group was taken as the group's prior probability of classification. This procedure offsets the tendency for more cases to be assigned to a larger group merely because of its larger size. Box's M and its associated F test were performed to determine whether the comparison groups' matrices were significantly different from one another. Results indicated that they were.

Accordingly, the classifications were performed using each subject's discriminant scores and the separate group covariance matrices.

Overall, 71.0 percent of the cases were correctly identified. These results indicate that a very satisfactory actual/prediction group matching has been achieved. On the bases of chance alone, one would expect 56.0 percent correct placement (with the proportion of each group being correctly classified being equal to the proportion of the total assigned to the group). Thus, cases were accurately classified by 15.0 percent more than would have been correctly assigned by chance. Interestingly, the discriminant function was much better at predicting non-chronics (86.5 percent correctly classified) as compared to chronics (39.0 percent correctly classified). None of this would have been possible, of course, unless female chronics were separately identifiable from female offenders in general. We now turn our attention to a discussion of those differences and how males and females compare.

DISCUSSION

(TABLE 5 ABOUT HERE)

Gender Similarities

Table 5 summarizes the results of the 17 hypotheses tested. In terms of comparing the bio-historical backgrounds of this sample of female chronics with those of male chronics, three similar characteristics were found. Hypothesis 1.1 MGS was confirmed. Minority group status and all the social and economic disadvantages that entails has consistently been associated with high rate offending. The result that this variable was the fourth most powerful discriminator between the chronics and non-chronics in this sample suggested that the offending patterns of females are as strongly influenced by these disadvantages as they are for males.

The results that both hypotheses 1.6 RAU (reported alcohol use) and 1.7 RDU (reported drug use) were confirmed suggested that substance abuse is also a core characteristic of chronic offenders regardless of gender. Although the direct link between substance abuse and high rate offending has yet to be firmly established, it has been shown elsewhere that high levels of drug dependency can be positively correlated with high offense velocity (Inciardi and Pottieger 1986).

As Table 5 indicates, the offense pattern variable 2.4 AFAA (age at first adult arrest) was the most powerful discriminant variable in the function. Although juvenile arrest data was not available for this female sample, age at first arrest has consistently been associated with chronic offending for males, and it is not unlikely that the juvenile records of this sample would also reflect this pattern.

Two hypotheses based on convergence theory were confirmed and suggested some further similarities between male and female chronic offenders. The confirmation of 3.1 MSTO (marital status at time of offense) suggested that single lifestyles are associated with high velocity offending. Presumably, married females generally have more conventional or stable lifestyles, and less economic pressures to pursue profit generating offense patterns. They may also have more to lose from criminal justice sanctions.

Further support for increasing similarities between males and females was the confirmation of hypothesis 4.2 CIO (codefendant with instant offense) indicating that chronic female offenders were more likely to commit crimes alone. This suggestion of self-reliance was tempered by the finding that when the chronics did have codefendants, they were more likely to be males than for the non-chronics. This preponderance of male codefendants could, however, result from the increasing partnership with males in commit in traditionally male crimes.

Gender Dissimilarities

Beyond the core characteristics of chronic offending discussed above, there were numerous dissimilarities found between female and male patterns of chronic offending. Eleven of the 17 hypotheses predicting gender similarities were not confirmed. In this sample of female offenders, the chronic offenders were more often than not different from their non-chronic counterparts in ways that would not be expected if the dynamics of high rate offending were isomorphic for both genders.

That the chronic subjects had higher reported educations (1.3 REL) and lower IQs (1.4 IQ) than non-chronics was quite inconsistent with past research. However, since the educational level of inmates is often influenced by correctional education programs, chronic offenders may have had more time to advance their education. Also, lower IQs may have been instrumental in closing off legitimate opportunities to the chronic group when they were in the free community. Unfortunately, there is no evidence in this study to support either of these explanations.

Unemployment (1.5 ETIO) did not distinguish the female chronics in this sample. For males, sporadic employment has consistently been found to be associated with high rate offending. Traditional female roles in our society have not included the same the emphasis on employment that has been essential for males. Also, if male unemployment requires them to find illegitimate incomes, this appears to be less true for females. The relationship between employment and chronic offending may still prove to be important and a more detailed analysis is needed.

An unexpected outcome was the finding that significantly more individuals in the chronic group came from broken homes (1.9 BH) and fewer reported criminality in the family of origin (1.10 FC). This appeared to contradict the findings with males (Petersilla, Greenwood, and Levine 1976) and may indicate true gender differences. However, the low discriminant value of these variables suggested that while it may

be worthy of additional exploration, others are more important differences between the study groups. For example, the findings 1.1 (SA) that chronic group experienced less spouse abuse, and 1.4 (IQ) that chronic group had lower average I.Q.s both were more powerful group discriminators.

Seriousness of the instant offense (2.8 SIO) was the second most powerful discriminator of the offense pattern variables, but contrary to the findings for male chronics, females were less likely to be incarcerated for a violent instant offense. This finding is consistent with the lower rate of violent offending for females in general.

Also contrary to expectations, the chronic group did not evidence a greater propensity for planning their offenses (2.10 CP) than the non-chronic group. This result could be related to the relatively lower participation of female chronics in crimes without co-conspirators.

Unlike their male counterparts, female chronic offenders were no more likely to use weapons than non-chronics. Females have always been less likely to commit weapons related crimes such as armed robbery and aggravated assault. This pattern apparently holds true for female chronic offenders as well.

Summary

This analysis of an incarcerated sample of female offenders begins to shed some light on the less studied female version of the chronic offenders. Like their male counterparts, female chronic offenders are different from non-chronics in that they are more likely to be: of a minority group status, alcohol/drug abusers, younger at first adult arrest, single and less likely to have co-defendants. But their are more differences than similarities. Female chronics are different from non-chronics in ways unique to their gender in that they: report high levels of education, have lower

IQs, are more likely to come from broken homes, have less family criminality, have experienced less spouse abuse, commit fewer violent crimes, and have fewer co-defendants of similar gender.

It is important that three of the four most powerful discriminators between the female chronic and non-chronic groups (Age at First Adult Arrest, Reported Drug Use, and Minority Group Status) are also strongly associated with male chronic offending. These at least are apparently core dimensions regardless of gender.

Given the results that so few of the hypothesis generated by research on male chronic offenders were confirmed and the need to further explore the differences found, further research in this area is warranted. A data base that includes juvenile offense records, information on more of the variables generated by past research on male chronic offenders, and that uses a non-prison sample of female offenders less biased by the discretion of the criminal justice process would yield both more insight on the gender unique aspects of female chronic offending and further evidence on the validity of the application of the convergence hypothesis to female chronic offenders.

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Table 1   Hyptoheses Generated by Previous
Research and Convergence Theory.

Previous Research:

(-Bio-historical Background Variables-)

1.1   Chronics are more likely to be of minority group status than non-chronics.
1.2   Chronics should have socioeconomic statuses similar to non-chronics.
1.3   Chronics should have educational levels similar to non-chronics.
1.4   Chronics should have intelligence quotients similar to non-chronics.
1.5   Chronics are more likely to be unemployed than non-chronics.
1.6   Chronics are more likely to have a history of problem alcohol use than
      non-chronics.
1.7   Chronics are more likely to have a history of problem substance use than
      non-chronics.
1.8   Chronics are more likely to have a history of poly-substance use than
      non-chronics.
1.9   Chronics should come from broken home backgrounds similar to non-chronics.
1.10 Chronics should have criminality among other family members similar to non-chronics.
1.11 Chronics are more likely to have experienced spouse abuse than non-chronics.
1.12 Chronics are more likely to have experienced child abuse than non-chronics.

(-Offense Pattern Variables-)

2.1   Chronics are more likely to have juvenile offenses than non-chronics.
2.2   Chronics are more likely to have serious juvenile offenses than non-chronics.
2.3   Chronics are more likely to have juvenile incarcerations than non-chronics.
2.4   Chronics are more likely to be younger at first arrest than non-chronics.
2.5   Chronics are more likely to be younger at first incarceration than non-chronics.
2.6   Chronics are more likely to have prior adult incarcerations than non-chronics.
2.7   Chronics are more likely to have higher offense velocity than non-chronics.
2.8   Chronics are more likely to have adult arrests for serious offenses than
      non-chronics.
2.9   Chronics should have offense specialization similar to chronics.
2.10 Chronics are more likely to have crime planning than non-chronics.
2.11 Chronics are more likely to commit profitable crimes than non-chronics.

Convergence Hypothesis:

(-Bio-historical Background Variables-)

3.1   Chronics are more likely to be single than non-chronics.

(-Offense Pattern Variables-)

4.1   Chronics are more likely to use weapons during the commission of their offenses
      than non-chronics.
4.2   Chronics are more likely to commit offenses without co-conspiritors than non-chronics.
4.3   Chronics are more likely to have female co-conspiritors than non-chronics.

Table 2   Research Variables and Codings

Previous Research:

(-Biohistorical Background-)

1.1	MGS	Minority Group Status (non-caucasian=1, caucasian=2)
1.3	REL	Reported Educational Level (in years 0 - 12)
1.4	IQ	Intelligence Quotient (in standard units)
1.5	ETIO	Employment at Time of Instant Offense (unemployed=0, employed=1)
1.6	RAU	Reported Alcohol Use (none=0, some=1, & problem=2)
1.7	RDU	Reported Drug Use (none=0, some=1, & problem=2)
1.9	BH	Broken Home (parental home broken=1, intact=2)
1.10	FC	Family Criminality (arrest of any other immediate family member=1, no arrests=2)
1.11	SA	Spouse Abuse (experience as offender or victim=1, no experience=2)
1.12	CA	Child Abuse (no experience=1, experience as victim =2)

(-Offense Pattern-)

2.4	AFAA	Age at First Adult Arrest (in years)
2.8	SIO	Seriousness of Instant Offense (non-violent offense=1, violent offense=2)
2.10	CP	Crime Planning (evidence of preplanning=1, spontaneous commisson=2)

Convergence Hypothesis

(-Biohistorical Background-)

3.1	MSTO	Marital Status at Time of Instant Offense (single=1, not single=2)

(-Offense Pattern-)

4.1	WCO	Use of Weapons in Commission of Instant Offense (no weapons=0, weapon=1)
4.2	CIO	Codefendants with Instant Offense (no co-defendant=0, at least one co-defendant =1)
4.3	CG	Co-defendant's Gender (male=1, female=2)

Table 3. Characteristics of the First and Second Run Discriminant
Function for the Chronic and Non-Chronic Groups

Predictor Variables	Eigenvalue	Canonical Correlations	Wilks' Lambda	Chi-square	DF	Significance
17 (1st run)	0.1669	0.3781	0.8570	164.72	17	p < .0001
13 (2nd run)	0.1669	0.3781	0.8570	164.72	17	p < .0001

Table 4. Structure Matrix: Pooled Within-group Correlations
between Discriminating Variables and Cannonical Discriminant
Functions for the 13 Variable Distilled Function*

Discriminant Variable		Coefficents	Wilks' Lamba	Significance
2.4	AFAA	0.64961	.93422	p. < .0001
1.7	RDU	0.48574	.88803	p. < .0001
2.8	SIO	0.40122	.91100	p. < .0001
1.7	MGS	0.36994	.90048	p. < .0001
1.11	SA	-0.26230	.87281	p. < .0001
1.6	RAU	-0.20951	.86798	p. < .0001
1.4	IQ	0.19564	.85792	p. < .0001
1.10	FC	0.12082	.85701	p. < .0001
1.3	REL	-0.09803	.86382	p. < .0001
4.2	CIO	0.07846	.85720	p. < .0001
3.1	MSTO	0.07259	.87820	p. < .0001
4.3	CG	0.02350	.85706	p. < .0001
1.10	BH	0.02089	.86102	p. < .0001

*The coding of these variables is shown on Table 2.

Table 5   Summary of Outcomes

VARIABLE	EXPECTED OUTCOMES*	GROUP MEANS*	HYPOTHESIS CONFIRMED?	RANK-ORDER DISCRIMINANT POWER
Previous Reaearch:				
		(-Biohistorical Background-)		
1.1 MGS	C < NC	C = 01.3084	YES	4
		NC = 01.4645		
1.3 REL	C = NC	C = 10.2270	NO	9
		NC = 10.0372		
1.4 IQ	C = NC	C = 85.5620	NO	7
		NC = 87.7659		
1.5 ETIO	C < NC	C = 00.4390(n.s.)	NO	-
		NC = 00.4826		
1.6 RAU	C > NC	C = 01.1792	YES	6
		NC = 01.0466		
1.7 RDU	C > NC	C = 01.3962	YES	2
		NC = 01.0452		
1.9 BH	C = NC	C = 01.3506	NO	13
		NC = 01.3651		
1.10 FC	C = NC	C = 01.2843	NO	8
		NC = 01.6386		
1.11 SA	C < NC	C = 01.7912	NO	5
		NC = 01.7241		
1.12 CA	C > NC	C = 01.2843(n.s.)	NO	-
		NC = 01.2999		
		(-Offense Pattern-)		
2.4 AFAA	C < NC	C = 21.1140	YES	1
		NC = 25.4970		
2.8 SIO	C > NC	C = 01.5328	NO	3
		NC = 01.6979		
2.10 CP	C < NC	C = 01.4255(n.s.)	NO	-
		NC = 01.4633		
Convergence Hypothesis:				
		(-Biohistorical Background-)		
3.1 MSTO	C < NC	C = 01.4651	YES	11
		NC = 01.4957		
		(-Offense Pattern-)		
4.1 WCO	C > NC	C = 00.4957(n.s.)	NO	-
		NC = 00.6428		
4.2 CIO	C < NC	C = 00.2992	YES	10
		NC = 00.3310		
4.3 CG	C > NC	C = 01.2586	NO	12
		NC = 01.2636		

* C = Chronic Group,   NC = Non-chronic Group
(n.s.) = Not Significant