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PERIODIC DETENTION:  
A COMPARISON OF RESIDENTIAL  
AND NON-RESIDENTIAL CENTRES

Study Series No. 4

Planning and Development Division  
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## FOREWORD

This report, as with others which preceded it in the Study Series, concentrates on analysing an operational element of the judicial system.

Previous studies have discussed the rubric of the sentence of periodic detention and undertaken some evaluation of the effectiveness of such a sentence using re-offending as a measure. They have not, however, looked in a comparative way at the non-residential vis-a-vis residential facilities. Although limited to Wellington, this study provides such a comparative evaluation as well as giving more recent information about the re-offending patterns of young persons sentenced to periodic detention.

The primary purpose of this study was to provide a comparison between the two forms of periodic detention where young persons were involved. However, the information relating to re-offending which was a principal variable in the comparison, cannot be ignored. Considered alongside the earlier studies it makes disturbing reading. It should be recognised however that the present sample of periodic detention sentences, unlike previous ones is biased toward more serious offences by virtue of the matching techniques used for the comparative analysis. Even though a seemingly increasing rate of re-offending raises fundamental questions it is necessary to point out (as the report properly does), that there are many other factors that need to be considered in assessing the value of a sentence such as periodic detention. A high and apparently increasing re-offending rate is not of itself a qualitative measure of the value of a community based programme, particularly where this involves young persons in the major 'at risk' group.

Because of our lack of knowledge about qualitative factors, evidence of a substantial re-offending rate is not sufficient to seriously question the concept of periodic detention. What this information does do is highlight the necessity for on-going analysis of the effectiveness of the programmes that are involved in a sanction of the nature of periodic detention. This is a prerequisite to any modification in the actual programmes that might be necessary to meet the various objectives implicit in the scheme, and to ensure that the influence of external factors, e.g. higher levels of unemployment, are recognised and reacted to.

This research was undertaken by Mr F. J. Markland an Assistant Research Officer. Our thanks go to Wardens and Probation Officers for their help in this project. We also gratefully acknowledge the work of Mr Alec Neill of the Applied Mathematics Division of the D.S.I.R. in the area of statistical analysis.

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## CONTENTS

	<u>Page</u>
Introduction	1
Methods	1
Results	5
Summary	10
BIBLIOGRAPHY	12
APPENDIX I : Traffic Offences Regarded As Serious	13
APPENDIX II : Seriousness Scale	14
APPENDIX III : Coding Definitions	15
APPENDIX IV : Adequacy of and Discussion on Matching Techniques	16



## INTRODUCTION

Since the introduction of periodic detention in 1963 there have been a number of studies discussing its philosophy and assessing its effectiveness (particularly Gibson 1973, Hampton 1976). There has been no information, however, on the relative effectiveness of the two different types of periodic detention. This report supplies some of that information.

This study compares the effectiveness of residential and non-residential programmes for youths and relates the results of the research to earlier work on periodic detention as a whole. The study compares two groups of youths who underwent periodic detention in the Wellington area.

## METHODS

### 1. Measure of Effectiveness

The two programmes were evaluated by their reconviction rates. Such recidivism rates are not an entirely satisfactory way of assessing "success" or "failure" especially for a community based programme (see Gibson 1973 p.14). Nevertheless, they are the most concrete and accessible form of assessment.

Studies using reconviction rates to compare the effectiveness of different penal programmes are notoriously unreliable. Offenders are sentenced to different programmes on the basis of their current offence, previous convictions, and social factors mentioned in pre-sentence reports. Each of these factors is also related to the probability that an offender will re-offend. Differences between reconviction rates might therefore be related to differences between offenders and not to differences between the programmes.

To put this simply: If a first offender is fined and does not re-offend, and a consistent offender is sent to prison and does re-offend, this does not necessarily mean that the fine is a more effective measure than imprisonment. The first offender may have been less likely to re-offend whatever the sentence.

In terms of this study, the problem was to generate two very similar groups of youths, one group undergoing a residential and the other a non-residential periodic detention programme. The most obvious way of achieving this would be by random allocation of those sentenced to periodic detention to either a residential or a non-residential programme. However, this method was not acceptable for both ethical and practical reasons.

The most feasible alternative was individual matching. This method involved matching each offender in the residential programme with an offender in the non-residential programme who had a very similar background. Theoretically, since each offender was matched on factors relevant to reconviction, any difference between the matched groups in reconviction rates after the programmes could be attributed to the effects of the programmes. The variables used for matching in this study were those found relevant to reconviction in previous studies.

## 2. Sample

There were two groups derived from all those sentenced to periodic detention in the Wellington Magistrate's and Children and Young Persons Courts:

- (i) Those youths sentenced to residential periodic detention between September 1976 (when the Lewisville residential centre opened) and 20 May 1977.
- (ii) Those sentenced to juvenile periodic detention from 1 February 1974 to 31 June 1975. There was no residential centre open in Wellington at this time.

Neither of the two groups were mixed with adults. Each group was administered by the same staff. Each group underwent the same programme EXCEPT that the youths in (i) were required to reside in the centre on Friday and Saturday nights, but the youths in (ii) were not.

An attempt was made to match each youth in group (i) with another youth in group (ii). Group (ii) was much larger to ensure a sufficient pool so that a suitable match could be found for each group (i) youth. Thus, three samples were generated: 1976 match, 1974 match, and 1974 non-match (the "leftovers").

The follow-up comparison was between the two matched samples.

## 3. Data Collection

Names of all youths were obtained from the centres' files. Personal details and offence histories were obtained from probation reports on file. Where necessary, this information was supplemented by court records, Department of Social Welfare reports and information held on file in the Justice Department head office.

All youths transferred to or from other centres were omitted as were youths who had previously served a custodial sentence (prison, borstal or detention centre).

A further 3 offenders were omitted from the residential group. One had had his sentence varied by court order, another was omitted as psychiatrically disturbed, and the third was sentenced to imprisonment (before completing periodic detention) for an offence committed prior to being sentenced to periodic detention. Suitable matches were found for 29 of the remaining 31 residential youths.



9 offenders were omitted from the non-residential group in addition to those transferred or with previous custodial sentences. 4 lacked personal information, 3 had their sentences varied, 1 died during the course of his periodic detention sentence, and the 9th offender omitted was believed to be suffering brain damage. 89 offenders remained, 29 of whom were matched with the residential sample.

The follow-up period was one year from the end of the periodic detention sentence. Gibson found that 84 to 88 percent of all those who were reconvicted within two years of the date of sentence, were reconvicted within the first 12 months (Gibson 1973, p.21). The follow-up period ended within a year if reconviction resulted in a custodial sentence. Reconviction after a custodial sentence might reflect the "treatment" effects of the custodial sentence rather than the "treatment" effects of the particular periodic detention programme.

Follow-up information on reconvictions was obtained from the Police Gazette and files held by the Department.

Serious traffic convictions (see Appendix I) were included throughout, as if they were criminal convictions. Periodic detention is increasingly used for serious traffic offenders, and some traffic related offences may also result in prison sentences. (For a treatise on violence on the roads and its relationship to criminal violence see Parsons 1978). Traffic history and reconviction rates were traced through the Ministry of Transport Central Registry. Traffic offences are in general no longer recorded through the police system.

The Death Register was checked to ensure that none of the matched offenders had died during the follow-up period (thereby losing the opportunity to be reconvicted). None of the matched offenders had died (although it may be worth noting that at least 4 of the unmatched offenders had died and of these, 2 had died of drug overdoses and one as the result of criminal violence).

It was not possible to check whether offenders had left the country during the follow-up period.

Unlike imprisonment, where reconvictions can be measured from the date of release, some offenders commit an offence by breaching the periodic detention order, usually by failing to attend the centre at the times required, and may receive a custodial sentence.

Similarly, some may commit new offences before the expiry date of the sentence. The study distinguished breaches from new offences and also distinguished those who were reconvicted before completion of their periodic detention sentence from those who were reconvicted after termination of their sentence.

#### 4. Variables for Matching

29 offenders who underwent residential periodic detention were each matched with one offender who underwent non-residential periodic detention so that each offender was as similar as possible to his twin on every one of the following variables:

- (i) Sentence length. Matching on this variable was difficult because the residential sentence was generally shorter (3 to 4 months) than the non-residential term (usually about 6 months).

- (ii) Number of previous appearances before a court in which a conviction was entered or a complaint upheld.
- (iii) Number of previous convictions entered or complaints upheld (including discharges under s.42 of the Criminal Justice Act 1954 and admonished and discharged).
- (iv) Present and past offence type and seriousness (Appendix II).
- (v) Number of appearances (as in (ii)) in the year before being sentenced to periodic detention.
- (vi) Previous most serious penalty.
- (vii) Age. It was necessary to control this variable. The residential programme had a lower age limit (15-19 inclusive) than the juvenile programme (15-20 inclusive). All 20 year olds were eliminated from the non-residential group from which the matched sample was chosen.
- (viii) Race. This variable was a dichotomy; Pacific Islander and Maori/other.
- (ix) Marital Status. This variable was a dichotomy; Never Married/other.
- (x) Educational Level. This variable was a dichotomy; No Qualifications/other.
- (xi) Father's Occupation. This variable was a dichotomy; Unemployed, unskilled, dead, don't know/other.
- (xii) Offenders Occupation. This variable was a dichotomy; Unemployed, unskilled/other.
- (xiii) Family Pathology. This variable was a dichotomy; No pathology/other. (Appendix III).
- (xiv) Place of Residence. This variable was a dichotomy; With parents, family/other.
- (xv) Whether the offender was known to have been drinking at the time of committing the offence.

Obviously no two offenders were exactly alike. In practice each pair of offenders was matched on about 10 of the 15 variables. Appendix III describes the coding definitions of the variables and Appendix IV discusses the adequacy of the matching technique. The Results section below discusses the results of the study assuming that the matching is accurate and effective. Appendix IV is, therefore, very important to any assessment of the study.

#### 5. Test Statistics

Normal chi-square contingency tables were used to test for significant differences between the two matched samples taken as a whole. Gamma was used to show the strength of any relationship noted.

Each table showing the two samples taken as a whole is followed by a table showing the same results arranged in terms of the 29 matched pairs

## RESULTS

### 1. Comparison with Other Studies

In Table 1 the data collected for this study is compared with data collected by Hampton and Gibson.

Table 1 Most Serious Penalty of all Reconvictions, Youths by Year of Sample

	YEAR OF SAMPLE				
	1.	2.	3.	4.	5.
	1963-67	1967-69	1972	1974-75	1976-77
	%	%	%	%	%
Custodial	32	36	45	40	48
Non-custodial	29	34	30	30	38
No Reconviction	40	30	25	29	14
Sample Size	n=251	n=279	n=188	n=89	n=29

The two most recent samples are not strictly comparable because:

- (i) they are from one local area where the earlier samples were national.
- (ii) they are very small samples.
- (iii) their follow-up period extended for one year from the end of the periodic detention sentence NOT for two years from the date of being sentenced to periodic detention.
- (iv) their composition was slightly different. Samples 1 and 2 consisted of offenders aged 15-20 (inclusive) sentenced to residential periodic detention followed up for all reconvictions (including traffic offences). Sample 3 was the same age group but it did not distinguish residential and non-residential detainees, nor did it follow up traffic offences. Sample 4 consisted of offenders sentenced to residential periodic detention who underwent a non-residential programme. The offenders in this sample were restricted to those aged 15-19 (inclusive) and the follow-up included serious traffic offences. Sample 5 consisted of residential detainees aged 15-19 (inclusive) and the follow-up included serious traffic offences.

Nevertheless, they indicate a disturbing trend towards a higher reconviction rate and towards custodial sentences on reconviction. It is possible that this apparent trend is a result of more serious offenders being sentenced to periodic detention in recent years. Tentative hypotheses such as these should be tested in a larger national study, however.

The real interest in this study was not, however, the comparison with earlier studies but the comparison between the residential and the non-residential matched samples.

## 2. Residential versus Non-Residential : Breaches

The first hypothesis was that the residential detainees would breach the periodic detention order more often because of the extra constraints involved in remaining at the centre overnight.

Table 2 Type of Programme by the Incidence of Breaching

INCIDENCE OF BREACHING		TYPE OF PROGRAMME	
		Non-Residential Match	Residential Match
Custodial		5	6
Non-Custodial		6	8
No Breach		18	15
<hr/>			
TOTAL		29	29

In Table 2 "Custodial" includes those cases where custody was imposed for a combination of a breach and a new offence, but not those cases where custody was imposed purely for a new offence. The Table moves in the direction suggested, but the effect does not reach statistical significance. The chi-square for the breach/non-breach dichotomy was 0.28, and Gamma was 0.21.

Table 3 shows the same data arranged in terms of the 29 matched pairs. By looking at Table 3, we know that there were 3 matched pairs in which each member was sentenced to custody for a breach; that there was 1 matched pair in which the residential member was sentenced to custody and the non-residential member breached periodic detention but was given some penalty other than custody; that there were 2 matched pairs in which the residential member was given a custodial penalty while the non-residential member did not breach; and so on.

If each member of a matched pair performed the same as the other member, all the pairs in Table 3 would lie in the cells on the diagonal from the top left to the bottom right. So, there were 13 matched pairs in which each member had the same record as far as breaches were concerned.

Residential detainees did not breach the periodic detention order significantly more often. Residential detainees were not sentenced to custody (borstal, detention centre or imprisonment) for a breach significantly more often.

Table 3 Type of Programme by the Incidence of Breaching, Arranged in Pairs

		RESIDENTIAL		
		Custodial	Non-Custodial	No Breach
NON RESIDENTIAL	Custodial	3	0	2
	Non- Custodial	1	1	4
	No Breach	2	7	9

3. Residential versus Non-Residential : Terminations

The second hypothesis was that the residential detainees would find it more difficult to successfully complete their sentence because their sentence involved more limits on their freedom. Again, this hypothesis was not confirmed. There were fewer custodial terminations in the residential sample (Table 4) but again these differences were not statistically significant. Table 5 shows the same data in matched pairs. "Other" in each table means that the offender finished the periodic detention sentence without being sentenced to custody (although not necessary without reconviction).

Table 4 Type of Programme by Type of Termination

		TYPE OF PROGRAMME	
		Non-Residential Match	Residential Match
TYPE OF TERMINATION	Custodial	11	9
	Other	18	20
<hr/>			
TOTAL		29	29

Chi-square = 0.08 at 1 Degree of Freedom. This is not a statistically significant result. Gamma = -0.15.

Table 5 Type of Programme by Type of Termination, Arranged in Pairs

		RESIDENTIAL	
		Custodial	Other
NON- RESIDENTIAL	Custodial	4	7
	Other	5	13

#### 4. Residential versus Non-Residential : Time of First Reconviction

It has long been assumed that residential periodic detention is effective in preventing youths from re-offending during the course of the periodic detention sentence. This study produced no evidence to support this assumption.

Table 6 Type of Programme by Time of First Reconviction

TIME OF FIRST RECONVICTION	TYPE OF PROGRAMME	
	Non-Residential Match	Residential Match
During Periodic Detention	14	14
During Follow-Up	7	10
Not Applicable	8	5
<b>TOTAL</b>	<b>29</b>	<b>29</b>

Chi-square = 0.07 at 1 Degree of Freedom. This is not a statistically significant result. Gamma = -0.18.

"Not applicable" in Table 6 includes those who were not reconvicted; and those who were reconvicted but only for a breach of the periodic detention order and not for a new offence. There was no difference between the matched samples in the numbers convicted of a new offence while serving a periodic detention sentence. Table 7 expresses this in terms of pairs.

Table 7 Type of Programme by Time of First Reconviction, Arranged in Pairs

		RESIDENTIAL		
		During Sentence	After Sentence	Not Applicable
NON-RESIDENTIAL	During Sentence	9	5	0
	After Sentence	2	2	3
	Not Applicable	3	3	2

The study also considered whether the maximum penalty incurred for a reconviction was incurred during or after the periodic detention sentence. For each programme, 12 of the 14 offenders who were reconvicted during the periodic detention sentence also received their maximum penalty during the periodic detention sentence.

### 5. Residential versus Non-Residential : Reconvictions

Most of the offenders in each of the two matched samples were reconvicted within the one year follow-up period. It has been suggested that residential periodic detention may be more effective in preventing reconvictions than non-residential periodic detention. This study gave no indication that this was so. Marginally more of the residential sample were reconvicted than the non-residential group, although the differences were not statistically significant (Table 8).

Table 8 Type of Programme by Reconvictions

RECONVICTED	TYPE OF PROGRAMME			
	Non-Residential Match		Residential Match	
	n	%	n	%
Not Reconvicted	6	20.7	4	13.8
Reconvicted	23	79.3	25	86.2
<b>TOTAL</b>	<b>29</b>	<b>100.0</b>	<b>29</b>	<b>100.0</b>

Chi-square = 0.12 at 1 Degree of Freedom. This is not a statistically significant result. Gamma = -0.24.

The position changed very little if those offenders whose sole reconviction was a breach of periodic detention resulting in custody were omitted. There was one offender in this category from the residential sample and two offenders in this category from the non-residential sample.

### 6. Residential versus Non-Residential : New Penalty

Most of the offenders in each of the two matched samples were reconvicted within the one year follow-up period. Most of those who were reconvicted, received a custodial sentence (Table 9). The most noticeable difference between the two matched samples is the number of cases where the residential offender received a further periodic detention sentence while the non-residential "twin" was not reconvicted or received a lesser sentence (Tables 9 and 10). This difference might reach significance if the samples were larger.

Table 9 Type of Programme by Most Serious Penalty for Reconvictions

PENALTY	PROGRAMME			
	Non-Residential Match		Residential Match	
	%	n	%	n
Not Reconvicted	20.7	6	13.8	4
Admonished, Convicted and Discharged, To Come up if Called, Fined	27.6	8	17.2	5
Probation	3.5	1	3.5	1
Periodic Detention	3.5	1	17.2	5
Detention Centre, Borstal Prison	44.8	13	44.8	13
Guardianship	0	0	3.5	1
<b>TOTAL</b>	<b>100.0</b>	<b>29</b>	<b>100.0</b>	<b>29</b>

Table 10 Type of Programme by Most Serious Penalty for Reconvictions, Arranged in Pairs

		RESIDENTIAL					
		0	1	2	3	4	
NON-RESIDENTIAL	0	1			2	3	0 = Not Reconvicted
	1	3	2		1	2	1 = Admonished, Convicted and Discharged, To Come up if Called, Fined
	2					1	2 = Probation
	3				1		3 = Periodic Detention
	4		3	1	1	8	4 = Custody

A number of condensed forms of Table 9 were tested for statistical significance. Not one reached significance.

### SUMMARY

- 29 offenders from a residential centre were matched with 29 very similar offenders who had undergone the same programme with the same staff in a non-residential setting.



2. There were no statistically significant differences between the two groups in:
  - (a) the rate of breaching the periodic detention order.
  - (b) the rate of breaching that resulted in a custodial sentence.
  - (c) The way in which the offender completed the programme.
  - (d) The time of the first reconviction.
  - (e) The time of the offender's maximum new penalty.
  - (f) The rate of reconvictions.
  - (g) The type of new penalty.
3. There were some indications, however, that a larger sample size might alter the result in (f) and (g) so that marginally more offenders from the residential group would be reconvicted and have as new penalties the semi-custodial range (probation and periodic detention).
4. Overall, neither the residential nor the non-residential setting could be regarded as more effective in preventing or limiting reconvictions. Differences in reconviction rates disappeared when offenders were matched.

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APPENDIX I

TRAFFIC OFFENCES REGARDED AS SERIOUS IN THIS STUDY.

1. Reckless or dangerous driving of motor vehicle causing death.
2. Careless use or driving of motor vehicle causing death.
3. Driving or in charge of motor vehicle under influence causing death.
4. Reckless or dangerous driving of motor vehicle causing injury.
5. Careless use or driving of motor vehicle causing injury.
6. Driving or in charge of motor vehicle under influence causing injury.
7. Failing to stop motor vehicle after accident involving death or injury.
8. Failing to ascertain injury.
9. Driving while disqualified.
10. Alcohol related driving offences.
11. Reckless or dangerous driving, including driving at excessive speed.
12. Careless driving.

APPENDIX II

SERIOUSNESS SCALE USED IN THIS STUDY

Previous most serious conviction.

Level 1

Property less than \$2.

Liquor Act: minor in bar, drinking in public place, liquor near a dance hall.

Obscene language, offensive behaviour, Post Office Act (obscene and annoying phone calls).

Obstruct carriage way, etc.

Drunk.

Depositing dangerous litter.

Arms Act (possession, etc).

Unlawful taking of bicycle.

Wilful trespass, unlawfully in enclosed yard, on premises.

Frequenting.

Begging alms.

Owens dangerous dog.

Peeping.

Level 2

Idle and disorderly.

Resisting, obstructing Police.

Disorderly behaviour, fighting.

Unlawful intercourse, indecent assault.

Unlawful getting into, interfering with vehicle.

Possessing offensive weapon.

Discharging firearm in public place, likely to endanger.

Property, over \$2.00 and under \$100.

False fire alarm.

False statutory declaration, false allegation, false information.

Wilful fire to scrub.

Harbouring a juvenile escaper.

Stowing away.

Level 3

Property over \$100 and under \$1,000.

Burglary \$10-100.

Assault.

Unlawful taking motor vehicle.

Drugs, possession and use.

Arson (house).

Level 4

Robbery

Wounding with intent.

Property over \$1,000, Burglary over \$100.

Aggravated assault.

Careless use of firearm causing bodily injury.

## APPENDIX III

## CODING DEFINITIONS USED IN THIS STUDY

1. Race: As stated in the probation pre-sentence report.
2. Marital/Status: As stated in the probation pre-sentence report. A de facto relationship was included among those who were married.
3. Family Pathology: As stated in the probation pre-sentence report. This is admittedly a very subjective measure. If the parents were separated or divorced or were involved with welfare authorities, this was coded as "some pathology".
4. Place of Residence: At home included with one parent only, with foster parents, or with relatives provided it was a permanent place of residence (as stated in the probation pre-sentence report).
5. Drinking: In most cases it was not stated whether the offender was drinking at the time of the offence. There may not have been a great deal of difference between those who were known to have been drinking at the time of the offence and those who were not known to have been drinking.

Condensed:

		RESIDENTIAL		
		1-6	7-12	13+
NON-RESIDENTIAL	1-6	10	2	
	7-12	2	8	1
	13+		1	5

4. Frequency of Court Appearances in Past Year

Condensed:

		RESIDENTIAL		
		0-1	2-3	4-5
NON-RESIDENTIAL	0-1	15	3	
	2-3	3	6	
	4-5	1	1	

5. Age of Offender

The matching on this variable was poor. There were very few 15 year olds in the non-residential compared with the residential sample. This had the effect of spreading the whole distribution. This difference emerged as the single most clear-cut difference between the offenders who underwent the residential and the offenders who underwent the non-residential programme.

		RESIDENTIAL				
		15	16	17	18	19
NON-RESIDENTIAL	15	2				
	16	3	3		1	1
	17	2	2	4	2	1
	18	1	3		1	
	19				1	2

6. Race of Offender

		RESIDENTIAL	
		Pacific Islander or Maori	Other
NON- RESIDENTIAL	Pacific Islander or Maori	8	4
	Other	4	13

7. Educational Level of Offender

		RESIDENTIAL	
		No Qualifications	Other
NON- RESIDENTIAL	No Qualifications	24	
	Other	3	2

8. Offender's Occupation

		RESIDENTIAL	
		Unskilled Unemployed or Don't Know	Other
NON-RESIDENTIAL	Unskilled, Unemployed or Don't Know	26	
	Other	2	1

9. Father's Occupation

This variable also was poorly matched.

		RESIDENTIAL	
		Unskilled, Unemployed, Dead or Don't Know	Other
NON-RESIDENTIAL	Unskilled, Unemployed, Dead or Don't Know	11	9
	Other	5	4

10. Place of Residence

RESIDENTIAL		
NON-RESIDENTIAL	Away From Home	At Home
Away From Home	9	2
At Home	2	16

11. Family Pathology

RESIDENTIAL		
NON-RESIDENTIAL	Good	Other
Good	8	3
Other	3	15

12. Drinking at time of Offence

RESIDENTIAL		
NON-RESIDENTIAL	No or Don't Know	Yes
No or Don't Know	22	1
Yes	1	5

13. Marital Status

All members of both matched samples were "Never Married". Matching on this variable was perfect.

RESIDENTIAL		
NON-RESIDENTIAL	Never Married	Other
Never Married	29	0
Other	0	0



14. Previous Most Serious Penalty

NON-RESIDENTIAL	RESIDENTIAL			
	None	Admonished Etc.	Probation	Care, Periodic Detention
None	4			
Admonished Etc.		6	1	1
Probation			8	4
Care, Periodic Detention				5

As a test of the matching, each of the foregoing tables was tested for association (dependence) between the residential and the non-residential groups. This is the usual chi-squared test with the expected values calculated assuming rows (or columns) to exhibit equal proportions as the marginals. If the matching were perfect we would expect a significant result on each variable.

	VARIABLE	CHI-SQUARE	DEGREES OF FREEDOM	SIGNIFICANCE
*	1. Sentence Length	12.14	1	0.1% Level
**	2. Previous Appearances	27.57	9	1% Level
**	3. Previous Convictions	29.25	4	0.1% Level
***	4. Frequency	27.6	4	0.1% Level
	5. Age	23.0	16	NOT SIGNIFICANT
	6. Race	5.39	1	5% Level
	7. Education	10.31	1	1% Level
	8. Offender's Occupation	8.98	1	1% Level
	9. Father's Occupation	.0008	1	NOT SIGNIFICANT
	10. Place of Residence	14.50	1	0.1% Level
	11. Family Pathology	9.11	1	1% Level
	12. Drinking	18.09	1	0.1% Level
	13. Marital Status	Infinite	1	PERFECT MATCH
	14. Previous Penalty	58.06	9	0.1% Level

* Evaluated on:	3-4	Over 4	(Months)
3-4	16	4	
4+	1	8	

\*\* Evaluated on condensed tables as quoted.

\*\*\* Evaluated on:

	0	1	2	
0	5			0 = 0
1	1	9	3	1 = 1
2		4	7	2 = more than 1

The foregoing table shows that the matching is quite adequate except for the variables Age, and Father's Occupation. Nevertheless, there are a number of problems with the matching technique that should be borne in mind when considering the results of this study:

#### 1. Size of Pools

The larger the pools of offenders are, the more likely it is that an adequate match will be possible. However, the generality of any findings should then be limited only to the type of offender which it was possible to match.

#### 2. Different Populations

In some situations matching may quite simply not be possible. For example, it is unlikely that it would be possible to match an offender who was fined with one who was sentenced to imprisonment.

#### 3. Matching Variables

The subtle assumption is that offenders are matched on those variables which are relevant to the effectiveness index (in this case, reconviction rates). In fact it is not certain that we matched on all those factors which might affect reconviction rates (or even all the important factors). The small size of the matched samples ruled out statistical analysis of the effect any particular factor might have.

#### 4. Sensitivity of Measurement

Even if the variables matched were the most important factors, we cannot be sure they were measured sensitively enough. The principal information source in this study was probation reports. These reports are subject to as much variation as there are probation officers, particularly in the case of a largely subjective variable such as "family pathology".

## 5. Accuracy of Matching

This is both (a) a quantitative and (b) a qualitative problem.

- (a) Should matching be exact or within arbitrary limits? For example, is it satisfactory to match 6 previous offences with 5 previous offences? with 4 previous offences? These are essentially arbitrary limits.
- (b) What is, for example, "an offence of the same type"? Is it adequate to match 6 previous burglaries with 5 burglaries and a theft?

## 6. Intervening Variables

This study sacrificed control of intervening variables for accuracy of matching. The most serious intervening variable in this study is time. There was no way of knowing the ways the social context of reconvictions had changed from 1974/75 to 1977/78.

Even if both samples were from the same time (which may not be possible if a different type of offender is sent to residential periodic detention from that sent to non-residential periodic detention) there may be other intervening variables. For example, a boy's attitude in court may have a significant effect on both the type of periodic detention to which he is sentenced and the probability that he will be reconvicted.

## 7. Measure of Effectiveness

Reconviction rates may not be the most satisfactory measure of any penal programme, particularly one such as periodic detention which aims to retain the offender within the community.

Matching is more usually used in an experimental setting when the variable matched is the same as the follow-up variable. For example, two subjects are matched for I.Q. score. One is fed a high protein diet; the other is not. The test then becomes: are there any significant changes in I.Q. after the experiment.

Part of the problem with this technique in this current study is that it becomes ex post facto - that is, "reading back after the event". The other major difference is that there are few (if any) well-developed scales in criminal justice system research. This means it is very difficult to quantify any differences that may occur.

8. Nevertheless, the two matched samples were offenders of a very similar type who went through the same programme with the same staff, one sample in a residential centre and the other sample in a non-residential centre. In terms of reconviction rates, neither sample was demonstrably better. The two matched samples were a demonstrably different group from the non-match group (the non-residential "leftovers"). Tests not reported in this study showed that the non-match group had a generally less serious previous conviction history and lower reconviction rates.

## 9. Future Research

A number of the difficulties described here would not arise if the sample size were larger. However, detailed individual matching becomes more difficult as the sample sizes increase.

It seems, therefore, that the most feasible way of approaching similar problems would be broad matching of smaller groups within the context of a larger study.

