An Overview

The Sibling Study:
Research Design and Guiding Principles

Mark Lynch

CONTENTS

INTRODUCTION

This document describes the Sibling Study research project. The Sibling Study incorporates both qualitative and quantitative data and represents a unique body of information about young people's trajectories through adolescence. The Sibling Study research design was developed to provide for detailed quantitative comparisons of the trajectories of serious offenders with the trajectories of non-offenders. These comparisons were always to be based upon data from a questionnaire which would 'push the envelope' in terms of both size and range.

Questions concerning sexual orientation and activity (of those 13 years and older), body image, cultural 'tastes', access to public amenities, possession of 'white goods' and ethical decision making (for example), were assumed to be critical to the comparisons envisaged. The Sibling Study research instrument developed to provide the platform for these comparisons was a 65 page self-report questionnaire containing in excess of 500 items[1]. This questionnaire was developed with the explicit intention in mind of empirically operationalising the major theoretical perspectives within criminology (at that time).

In addition however, a wide range of items were included which related to how respondents' understood their world. Such understandings were intended to incorporate both *local* and *general* dimensions. The range of items included in the questionnaire in order to 'tap' these local and more general understandings of the world substantially exceeded that strictly necessary in order to empirically operationalise criminological perspectives such as control theory, differential association theory *etc.*

In describing the Sibling Study it is useful to consider the project in terms of four separate headings. These are background, design, sample and data.

---

1   This instrument was developed by Mark Lynch together with Emma Ogilvie and Yiah Chan.

SIBLING STUDY BACKGROUND

In early 1993, a small consortium of social scientists began planning a major Australian study of the determinants of juvenile criminality. At that time there was increasing interest in the North American context in psycho-biological explanations of youth offending and there appeared to be some danger of socio-cultural explanations of delinquency being eclipsed by more biologically oriented perspectives.

Concern at the potential for this trend to be replicated in Australia, despite a paucity of compelling empirical data in support of the trend, decisively shaped the thinking of this consortium in terms of research design.

Funding for the project was sought and obtained from the Australian Research Council (ARC) within the terms of the (then) *Collaborative Research Grants Scheme*. The Criminal Justice Commission, Queensland, was the Industry Partner for the project and matched the ARC funding support.

Further financial support for the research was subsequently provided by the Criminology Research Council. The initial funding was for a three-year period. In 1997, the ARC agreed to fund the research for a further three years and The Queensland Department of Justice together with the (then) Queensland Corrective Services Commission joined the project as Industry Partners.

SIBLING STUDY RESEARCH DESIGN

Three key features distinguish the Sibling Study research design. Firstly, the design is quasi-experimental incorporating four quite discrete cohorts. Secondly, wherever possible the sample draws upon mixed sex sibling pairs aged between 12 and 18 years and not separated in age by more than 3 years.

Thirdly, the study is *semi*-longitudinal. Respondents were first interviewed in 1995. In 1998/99, respondents were re-interviewed and it is anticipated that a third wave of interviews will be conducted around 2002 or 2003 (subject to funding).

The quasi-experimental design was used in order to economically acquire sub-samples of particular interest. In particular, the dependant variable, 'criminal adolescents', was deliberately over-sampled.

The aim of the over-sampling of 'criminal' adolescents was to reduce the standard error associated with multivariate analyses of the determinants of juvenile criminality. For the same reason, young people deemed to be 'vulnerable' were likewise over-sampled.

Two further sub-samples were also obtained. These were a sample of 'urban Indigenous young people' and a 'control group' sample of young people drawn from a range of South East Queensland High Schools.

The use of mixed sex sibling pairs was perhaps the most innovative feature of the Sibling Study research design. This strategy was adopted in order to exploit the well-established finding with respect to juvenile criminality that males typically offend at around five times the rate of females.

With this finding in mind, the notion guiding the initial project development was that the identification of those aspects of socialisation closely associated with the *gendering* of young people was simultaneously also likely to identify the factors associated with the sex-effects so consistently observed in studies of youth crime. By using mixed sex sibling pairs, there was obviously also some degree of control being exercised over the potentially confounding effects of 'background' or home environment.

The semi-longitudinal aspect of the design was also an important defining feature of the Sibling Study. The

ability to re-interview a respondent, who had been (for example) 13 years of age in 1995 but was now 17 years old, permits a rare opportunity to examine empirically the trajectory through the transition from childhood to early adulthood.

There were of course a number of assumptions implicit to this design strategy. Firstly it was assumed that criminality was a socially learned behaviour rather than be a 'hard-wired' biological imperative. It was assumed that adolescence represents a particularly important period of learning what it means to be either masculine of feminine (i.e. gendering).

It was further assumed that the process of illuminating the social bases of *learned gender* would by corollary reveal key aspects of whatever it is that propels some young people (disproportionately male) into criminal trajectories.

Somewhat parenthetically, it is also worth bearing in mind here that even if criminality were discovered to be a biological imperative of some sort, the Sibling Study research design would not in fact be undermined. Even hard-wired criminality would require a period of socially based 'learning' in which an individual came to understand that at this particular time, and in this particular context, this particular act constitutes a crime.

SIBLING STUDY SAMPLE – (WAVE 1)

As can be seen in table 1, there is considerable variation between the four sub-samples making up the total Sibling Study sample. The largest group is that drawn from the South East Queensland schools (n=678), followed by the offender sub-sample (or cohort, n=225), followed by the 'vulnerable' sub-sample (n=160) with the final urban Indigenous sample comprising only 62 respondents.

It is also important to note that the extent to which similarly aged mixed sex sibling pairs varies across the four sub-samples. Whilst almost 83 per cent of the school sub-sample is made up of sibling pairs, both the 'vulnerable' and offender sub-samples have just slightly above 30 per cent in terms of their sibling pair components. There are no sibling pairs for the urban Indigenous sub-sample.

The small size of the urban Indigenous sub-sample has resulted in this group being excluded from most research exercises involving Sibling Study data. Accordingly, this document reflects the fact that the primary comparisons possible with Sibling Study data are between the school, 'vulnerable' and offender cohorts. The methods used to obtain respondents in each sub-sample were quite different and it is important to understand the sampling procedures adopted with respect to each group.

The School Sub-Sample

Table 2 illustrates the manner in which the school sub-sample is comprised of respondents drawn from schools that the Queensland Department of Education ranks according to an index of relative disadvantage.

In early 1994, the Director-General of the Queensland Department of Education was approached in order to seek departmental support for administration of the Sibling Study questionnaire to High School students aged between 12 and 18

Table 1: The Sibling Study Sample by Cohort			
Sub-sample	*n*	Per cent of total sample	Paired siblings (% of sub-sample)
School (Control)	678	60.27	562 (82.9%)
'Vulnerable'	160	4.22	52 (32.5%)
Offender	225	20.00	68 (30.2%)
Urban Indigenous	62	5.51	---
Total	**1125**	**100.00**	**682 (60.6%)**

years (inclusive). Approval for the project was obtained and the Director-General forwarded letters in support of the research to the Principals of 23 Brisbane High Schools. These 23 schools were selected by the Department of Education as constituting a reasonably even 'spread' of schools in terms of a departmental measure of 'relative disadvantage'[2].

The measure of relative disadvantage was based upon the student address, linked to Australian Bureau of Statistics (ABS) socio-demographic data. These data allowed the department to identify individual suburbs as 'more' or 'less' disadvantaged. These data were then combined with other departmental data relating to departmental levels of resource support for individual schools.

A school within a suburb that the ABS data identified as disadvantaged, and which also received low levels of departmental resource support, would thus score as highly disadvantaged. Conversely, a school in a suburb the ABS data identified as advantaged, and which also received a high level of departmental resource support, would score as least disadvantaged.

The Sibling Study Consortium was not provided with the ranking of each individual school, but was granted access to data showing the overall distribution of rankings.

As a result of the Director-Generals letter, together with discussions with the Sibling Study Consortium, 16 High Schools agreed to participate in the research and their ranking on the disadvantage measure are shown in table 2.

As can be seen in table 2, despite perhaps a tendency towards the least disadvantaged end of the index, the final (school) sample frame and distribution of respondents contains a reasonable spread of schools in terms of the index of relative disadvantage.

The Queensland Department of Education advised the Sibling Study Consortium that in their view the final sample obtained was a close approximation of the population distribution of both Queensland schools and students/respondents. With this mind, it is not unreasonable to treat the school sub-sample as broadly representative of the population of young people aged between 12 and 18 years (Queensland, 1995, at least).

This representativeness means the school sub-sample can be treated as a control group within the quasi-experimental structure of the Sibling Study research design.

The 'Vulnerable' Sub-Sample

In the original Sibling Study research design, the specification of 'vulnerable' was only loosely defined. This sub-sample was always envisaged as incorporating young people who were demonstrably at risk of coming into formal contact with the juvenile criminal justice system, in terms of some clearly defined criteria. However, the problematic nature of the concept of 'vulnerable' made identification of appropriate criteria difficult.

Advice was sought from the (then) Department of

Table 2: Queensland Department of Education Index of Relative Disadvantage for School Sub-Sample		
School ranking	*n*	**%**
-1- Most disadvantaged	29	4.3
-2-	12	1.8
-3-	59	8.7
-4-	34	5.0
-5-	7	1.0
-6-	43	6.5
-7-	22	3.2
-8-	26	3.8
-9-	33	4.9
-10-	47	6.9
-11-	68	10.0
-12-	32	4.7
-13-	19	2.8
-14-	101	14.9
-15-	21	3.1
-16- Least disadvantaged	125	18.4

2   This measure is no longer used by the Queensland Department of Education.

Family Services and Aboriginal and Torres Strait Islander Affairs who had responsibility for the management of *Care and Protection Orders* for young people as to what criteria might most sensibly be employed.

On the basis of the advice obtained, 'vulnerable' was operationalised in terms of adolescents being *chronically marginalised/disadvantaged*. This definition meant a sub-sample of young people known to a range of government and non-government social support services (for precisely these reasons) could be invited to participate in the Sibling Study research.

In addition to these support agencies, a limited number of respondents were obtained directly from the 'street' as well as via word of mouth from other respondents.

The 'street' respondents were obtained exclusively from one inner city location (very late at night) acknowledged by the police, the support agencies and the respondents themselves as being a 'hang' for the target group.

The word of mouth (snowballing) contacts were almost exclusively obtained as a consequence of respondents contacted through support agencies persuading friends in the same position as themselves to participate.

As can be seen in table 3, slightly below half this sub-sample (n=71) was obtained through the access provided by various support agencies, with a further 44 respondents derived from the "street" interviews and 45 respondents derived through word of mouth snowballing. The proportion of this sub-sample being made up of sibling pairs was 32 per cent, with the largest proportion being obtained via the word of mouth component of the sampling. The low level of obtained sibling pairs is not surprising when the selection criteria for this group are considered (i.e. chronically marginalised/disadvantaged).

A sense of the 'vulnerable' respondents can perhaps be gained by noting the following example. A support agency had agreed to permit Sibling Study researchers to talk to their clients about the research and arrange the participation of those willing to take part. A Sibling Study researcher arrived at 7.30 a.m. on what was officially recorded as the coldest day of 1995. Two very lightly clad young people (a male/female couple) were found attempting to sleep on the open verandah of the agency premises.

Not only was it exceptionally cold and exposed on the verandah, but also at 5 a.m. the automatic garden sprinklers had turned on and immediately drenched the young couple. The couple were friendly and unassuming but were primarily concerned with seeking warmth, coffee and cigarettes until later in the day when they were confident they could obtain a meal and a bed from the Salvation Army. This couple was typical of many of the young people being assisted by the different support agencies.

Unemployment, (poly) substance abuse, high mobility, 'criminal' peer networks, a history of traumatic life-events, limited education and a relaxed attitude towards criminality all contribute to the basis upon which this group are deemed to be 'vulnerable'.

It should also be noted that these social support agencies also represented a 'first stop' for many young people after being discharged from a Youth Detention Centre. Finally, it is particularly important to recognise that in many instances respondents from this sub-sample had a 'home' they could go to (often listed when completing the Sibling Study questionnaire), but for a variety of reasons preferred not to for significant

Table 3: Composition of the 'Vulnerable' Sub-Sample		
Source of sub-sample	*n*	Paired siblings
Street	44	2
Personal contact	45	32
Community groups	71	18
Total	**160**	**52**
(% of cohort)		(32.5%)

3   The one 'missing' survey respondent was a female on 'suicide watch' in solitary confinement within a Youth Detention Centre. This particular respondent was prone to displays of considerable violence and had on an earlier occasion used a pencil to stab a correctional officer.

periods of time.

The Offender Sub-Sample

As can be seen in table 4, the offender sub-sample is derived from three sources from within the juvenile criminal justice system. Roughly equal numbers of respondents were drawn from within Youth Detention Centre's (n=72), from 'Appearances' at the Childrens Court (n=77) and from young people on "Supervised Orders" (n=76). Although each of these three categories of respondents can readily be defined as 'offenders', there are nevertheless some differences between these groups that need to be acknowledged.

The Detention Centre Respondents

The Detention Centre respondents were interviewed over a three-month period in early 1995. All incarcerated females were interviewed and slightly more than half the incarcerated males were interviewed.

Of the 72 respondents who completed the questionnaire, 29 also agreed to participate in the repeated unstructured qualitative interviews together with a single female detainee who was unable to complete the questionnaire[3].

In terms of their offending, the 30 detainees (15 male and 15 female) who participated in the qualitative interviews very clearly fall at the more serious end of the spectrum. Although property crimes were the most common, this group also included respondents detained for murder, attempted murder, (child) rape, armed robbery and aggravated assault.

Not surprisingly, there are relatively few sibling pairs within this sub-category. The inability to access siblings largely derived from a lack of knowledge by some respondents as to the location of siblings as well as a desire by some respondents to protect siblings from the invasive nature of the Sibling Study questionnaire.

The Childrens Court Respondents

The 77 respondents interviewed at the Childrens Court were obtained by simply approaching young people appearing in court (particularly for sentencing) and seeking their agreement to be interviewed. This procedure was approved by the responsible department, the (then) Department of Family Services and Torres Strait Islander Affairs.

In addition to adolescents being convicted and/or sentenced, this group contains a number of respondents who had earlier been convicted of an offence and who were in court to support a friend appearing in relation to some offence.

These individuals are particularly interesting because they include a number of respondents who were members of one of the few genuine youth 'gangs' in Brisbane (as opposed to the looser networks that are better described as 'crews'). The 'Toombull Boys' took pride in their reputation for being "staunch" and their preparedness to engage in criminality for both fun and profit.

Although this sub-category includes more sibling pairs than does the incarcerated group, the final number of paired siblings was only fourteen. This low yield derives from most respondents believing they had more

Table 4: Composition of the Offender Sub-Sample		
Source of sub-sample	***n***	**Paired siblings**
Supervised orders	76	52
Childrens Court	77	14
Detention centres	72	2
Total	**225**	**68**
(% of cohort)		(30.2%)

pressing concerns than "helping out Uni wankers".

The Supervised Orders Respondents

With the assistance of the (then) Department of Family Services and Torres Strait Islander Affairs, young people aged at that time between 12 and 18 years who were 'on file' as having been or currently on a supervised order, were contacted by Sibling Study researchers. Young people on Care and Protection Orders or on an order for a Status Offence (running away from home, for example), were excluded from consideration.

Although a total of 76 respondents were obtained over a seven month period through the use of this procedure, given that more than 1000 letters inviting participation were sent out, this initiative was without doubt the least successful research strategy employed.

Perhaps because these young people were in the community rather than detention and had their cases resolved rather than in process, a much larger number of paired siblings was obtained with respect to this sub-category than obtained in court or detention. Of the 76 respondents in this group, 52 were members a sibling pair.

One consequence of this strategy is the potential for 'diluting' the sub-sample through the inclusion of non-offending siblings within this group. Whilst a degree of dilution is undoubtedly the case, this is not as great a concern as might be expected. Fully 100 per cent of this group reported having 'done something against the law' although this does of course include some relatively minor transgressions.

However, the fact that those who *had* come into formal contact with the criminal justice system had received supervised orders rather than detention, also points to the generally less serious nature of their offences. This sub-category should thus be viewed as substantially comprising lower-level offenders who have been apprehended and (some) offending siblings who have not been apprehended.

The Sample by Sex

As can be seen in table 5, the Sibling Study sample contains a very predictable variation in terms of the sex distributions across the sub-samples. Although the school and 'vulnerable' sub-samples are reasonably evenly distributed in terms of female and male respondents with both groups comprising 51 per cent female and 49 per cent male respondents, the offender sub-sample comprises 71 per cent male and 29 per cent female respondents.

The disproportionate level of male representation in the offender sub-sample derives from the much smaller number of females sentenced to detention for serious offending. The slight discrepancies with respect to the

Table 5: The Sibling Study Sub-Samples by Sex

Sex of respondent	School (control) n	'Vulnerable' n	Offender n
Female	348	82	65
	(51.3%)	(51.2%)	(28.9%)
Male	330	78	160
	(48.7%)	(48.8%)	(71.1%)

Note:
rounding, missing values = 0, n=1063, Chi-square prob = 0.001

Table 6: Mean Ages of the Sibling Study Sub-Samples

Sub-Sample (Cohort)	n	Mean-age (years)	Standard Deviation	Min age	Max Age
School (control)	671	14.4	1.4	12	18
'Vulnerable'	141	15.5	1.9	12	19
Offender	221	15.6	1.5	12	19

Note:
Excludes 11-year-old respondents (n=6), respondents older than 19 years of age (n=16) and respondents for whom no age is recorded (n=8). The 'under' and 'over-age' respondents are excluded from analyses reported in the following two chapters.

school and 'vulnerable' sub-samples are the result of a policy decision made during the interviewing phase of the research. Same-sex siblings who sought to participate in the research were accepted as respondents and likewise, respondents were not excluded if their opposite-sex sibling ultimately decided not to participate in the research.

The Sample by Age

Table 6 shows the mean ages of the three sub-samples of interest. As can be seen, the "vulnerable" and offender groups are closely matched with mean ages of 15.5 and 15.6 years respectively. The mean age for the school sample is somewhat younger at 14.4 years.

The Sample by Socio-Economic Disadvantage

Figure 1: Index of socio-economic disadvantage

Notes:
Std. Dev = 81.46
Mean = 1002.7
N = 991.00
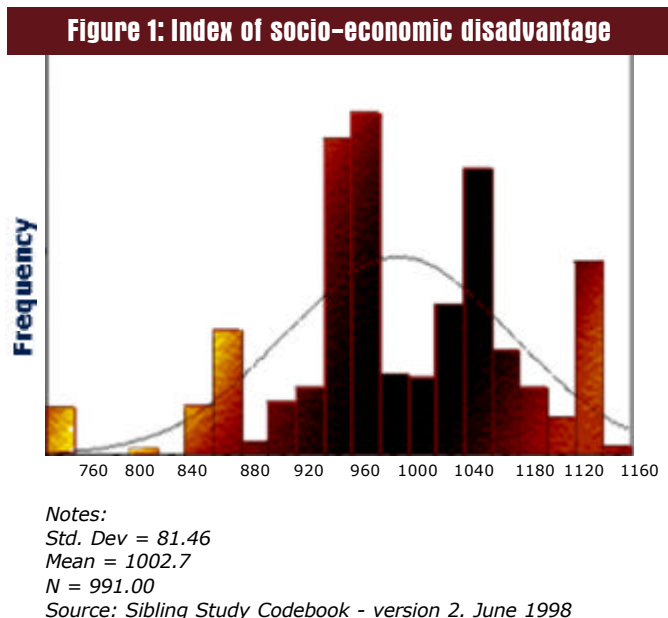Source: Sibling Study Codebook - version 2. June 1998

The Queensland Government Statistician's Office developed an Index of Relative Socio-Economic Disadvantage on the basis of suburb level data relating to the distribution of factors such as income, occupation and level of education. Respondents could thus be given a score on this Index on the basis of their home address. The distribution of respondent scores on this Index can be seen in figure 1.

A more readily interpretable indication of the Sibling Study sample can be gained by collapsing this Index at the 20th percentile. The results of this can be seen in table 7.

Table 7: Collapsed Index of Disadvantage for Total Sample

(Collapsed) Level of disadvantage	n	%
Missing/uncodable	134	11.9
-1- Most disadvantaged	190	16.9
-2-	149	13.2
-3-	241	21.4
-4-	210	18.7
-5- Least disadvantaged	201	17.9

As can be seen in table 7, the total Sibling Study is very evenly distributed across this measure of relative socio-economic disadvantage. The 17 per cent of respondents from suburbs deemed to most disadvantaged are neatly matched by the 18 per cent of respondents from suburbs deemed to be least disadvantaged. The single largest category of respondents (21 per cent) are from suburbs deemed to be the mid-category of the measure. A more focused appreciation of this measure can be gained by considering it with respect to the three sub-samples of interest.

Table 8 shows the distribution of respondents in terms of the 5 level measure of relative socio-economic disadvantage for the school, 'vulnerable' and offender sub-samples. Table 8 provides mixture of expected and unexpected results. As we would expect, 24 per cent of the school sub-sample fall into the least disadvantaged category, followed by

Table 8: Collapsed Index of Disadvantage by Sub-Sample

Sub-Sample	Most Disadvantaged			Least disadvantaged	
	-1-	-2-	-3-	-4-	-5-
School n	119	69	162	165	161
Row (%)	(17.6)	(10.3)	(23.9)	(24.4)	(23.8)
'Vulnerable' n	36	37	16	17	19
Row (%)	(28.8)	(29.6)	(12.8)	(13.6)	(15.2)
Offender n	35	43	63	28	21
Row (%)	(18.4)	(22.6)	(33.2)	(14.7)	(11.1)

Note:
rounding
missing values = 72
n = 991
Chi-square prob = 0.001

15 per cent of the 'vulnerable' group and 11 per cent of the offender category. However, when we turn to the most disadvantaged category we find both the school and offender sub-samples at 18 per cent, whilst fully 29 per cent of the 'vulnerable' sub-sample fall into this category.

The Sample by Parental Presence in the Household

Given the subject matter of this thesis, the final factor we need to consider is the presence or absence of parents in the household of the respondents. Table 9 shows that 58 per cent of respondents recorded their household as involving both their mother and father. A further 16 per cent of respondents recorded their household as incorporating a mother but not father. Once again, a better appreciation of these data can be obtained by examining the distribution with respect to the three sub-samples of interest. Table 10 reveals very marked differences between the three sub-samples in terms of family structure.

Table 10 reveals that the high level of dual (mother/father) carer families observed in Table 9 is very much a function of the characteristics and size of the school sub-sample. When we examine family structure by sub-sample we find that although 77 per cent of the school respondents report both a mother and father in their household, only 43 per cent of the 'vulnerable' sub-sample and 29 per cent of the offender sub-sample, also report this.

If we turn to those respondents reporting a 'mother only' in their household we find that 12 per cent of the school respondents, 6 per cent of the 'vulnerable' and 27 per cent of the offender sub-sample report this family structure. Similarly whilst only 2 per cent of the school respondents report a 'father only' family structure, this was reported by 6 per cent of respondents in both the 'vulnerable' and offender sub-samples. Perhaps the most important data reported in Table 10 relates to households in which there is neither a mother nor father present.

Table 9: Parental Presence in Household for Total Sample		
Parental presence	***n***	**%**
Missing/uncodable	*46*	*4.1*
Mother & Father	656	58.3
Mother & Step-father	72	6.4
Father & Step-mother	11	1
Mother only	179	15.9
Father only	38	3.4
No parents	72	6.4
Relatives (no parents)	51	4.5

Whilst less than 1 per cent of the school sub-sample report living with no mother or father present, 23 per cent of the 'vulnerable' sub-sample and 17 per cent of the offender sub-sample report this family structure. In addition, while only 1 per cent of the school sub-sample report living with relatives, 6 per cent of the 'vulnerable' sub-sample and 13 per cent of the offender sub-sample, report this family structure.

Table 10: Parental Presence in Household for Sub–Samples			
Parental presence	**School (Control)**	**'Vulnerable'**	**Offender**
Mother & Father *n*	518	69	62
Column (%)	(77.3)	(43)	(29)
Mother & Step-father *n*	38	10	17
Column (%)	(5.7)	(7.2)	(8)
Father & Step-mother *n*	9	1	11
Column (%)	(1.3)	(0.7)	(0.5)
Mother only *n*	81	21	57
Column (%)	(12.1)	(5.8)	(26.6)
Father only *n*	16	8	13
Column (%)	(2.4)	(5.8)	(6.1)
No parents *n*	1	32	36
Column (%)	(0.2)	(23)	(16.8)
Relatives (no parents) *n*	7	8	28
Column (%)	(1)	(5.8)	(13.1)

Note:
rounding, missing values = 40, n = 1023, Chi-square prob = 0.001

CONCLUSION

The aim of this document has been to convey a sense of both the complexity and the completeness of the Sibling Study data. In presenting the data contained in Tables 1 through to 10, the aim has been to demonstrate that the research design adopted and the research strategies employed, have ultimately provided for a sample which can reasonably be expected to yield detailed understandings of the factors underpinning both offending and desistence from offending.

The quasi-experimental research design means the final sample permits very tightly focused inter-cohort comparisons of offending in the school, 'vulnerable' and offender sub-samples. In addition, the unusually high proportion of females included in a study of criminality provides a rare opportunity for a close examination of sex/gender-associated desistence factors.

As a resource for quantitative examinations of the determinants of juvenile criminality, the Sibling Study data is unique in Australia (and indeed internationally). ¶

REFERENCES

Alder, C. and Hunter, N. (1999) Young women in the juvenile justice system : report of findings 1 : young women's offending Criminology Research Council: Canberra

Bessant, J. (2001) "From Sociology of Deviance to Sociology of Risk: Youth Homelessness and the Problem of Empiricism" Journal of Criminal Justice 29 (1) 31- 43 Feminist readings of female delinquency

Carrington, K. (1993) Offending girls: sex, youth and justice. St Leonards: Allen & Unwin

Chesney-Lind, M. (1997) The female offender:girls, women, and crime London: Sage

Hil, R., (2000) "A gloomy vista? : "Globalisation", juvenile crime and social order : an Australian perspective" Crime, Law and Social Change : an international journal, 33 (4) 369-384.

Ogilvie, E. (1996) "Masculine Obsessions: An Examination of Criminology, Criminality and Gender" Australian New Zealand Journal of Criminology 29:205-226.

Ogilvie, E. (1999) Offensive Girls: An Investigation of Gender and Adolescent Criminality Unpublished PhD thesis: University of Queensland

Ogilvie, E., Lynch, M. and S. Bell (2000) "Gender and Official Statistics: The Juvenile Justice System in Queensland" Trends and Issues in Crime and Criminal Justice (no. 162) Australian Institute of Criminology

Mak, A. (1993) "A Self Report Delinquency Scale for Australian Adolescents" Australian Journal Of Psychology 45 (2): 75-79

Mednick, S. Gabrielli, J. and Hutchings, B. (1997) 'Genetic Factors in the Etiology of Criminal Behaviour' (in), Criminological Perspectives, pp. 67-80, Sage Publication

Triplett, R. and Myers, L. (1995) "Evaluating Contextual Patterns of Delinquency: Gender-Based Differences" Justice Quarterly 12(1): 59-81

Wilson, J.Q. and Herrnstein, R. (1985) Crime and Human Nature. New York: Simon Schuster.