

Longitudinal rates of self-reported delinquency of at-risk and not at-risk Western
Australian high school students

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Abstract

Two hundred and forty nine 12 to 13 year old at risk and not at risk male and female high school students randomly selected from five high schools in the Perth metropolitan area of Western Australia provided self-reported delinquency data for three consecutive years. A multivariate analysis of variance revealed at risk students self-reported significantly more involvement in delinquency at the first data collection point than their not at risk counterparts. Male 12-13 year olds self-reported significantly more involvement in car related crimes, assault, rule infractions, and vandalism compared to their female peers. For some delinquent activities there were significant increases in involvement over time (Motor Vehicle, Drugs, and Public Disorder Offences) while for others (Theft, Rule Infractions, and Vandalism) this was not the case. In the majority of categories of delinquency at risk students self reported significantly higher rates of involvement.

Delinquency research has almost exclusively focused on the incarcerated population and those who have misdemeanours officially recorded in the juvenile justice system; in other words, the consequential side of the developmental trajectory towards delinquency. On the other hand, limited research appears to have been conducted with the “at-risk” population. Given recent research (Carroll et al., 1996, 1997) demonstrating that not only are these individuals in a state of transition in their developmental trajectory towards official delinquent status but that their risk-taking behaviour (Langsford, Douglas, & Houghton, 1998) and goals (Carroll et al., 1997) change over time, it is important that research focuses on this population; in other words, the antecedent perspective. Therefore, the purpose of the present research is to examine self-reported rates of delinquency according to risk status (i.e., at-risk, not at-risk) for both male and female high school students. Furthermore, the research seeks to identify the developmental trajectory of these delinquent activities over the peak period for involvement in delinquency (junior high school).

At-risk and delinquent behaviours have been referred to as a continuum of behaviours that deviate from mainstream social standards in ways that have resulted, or could result in serious disciplinary or adjudicatory consequences (Lorion, Tolan, & Wahler, 1987). Lorion et al. (1987) chart a continuum of behaviours that are simply socially unacceptable to school authorities (e.g., disrupting the classroom, rejecting teacher support, poor motivation), through to others that are illegal and problematic by virtue of the age of the offender (e.g., status offences such as truancy, running away, substance use), to those that are illegal acts independent of the offender's age (e.g., assault, vandalism, arson, robbery, rape). The outcomes of these at-risk and delinquent behaviours can lead to disciplinary consequences ranging from school suspension and expulsion to legal convictions and incarceration.

Prevalence rates of juvenile crime in Western societies have increased dramatically over the past 10 years. In the United States of America, arrests of individuals under 18 years of age for assault have increased 98%, for property offences have increased 23%, and for drug offences have increased 120% (Stahl, 1998). In Australia, juvenile incarceration rates increased from 34.1 per 100,000 juveniles in 1991 to 38.8 per

100,000 juveniles in 1996 (Ferrante, Loh, & Maller., 1998). The most frequent types of offences reported in these data are burglary and theft offences (42.3%), followed by driving offences (17.4%), good order offences (15.3%), property damage (6%), offences against the person (8%), drug offences (4.9%), and sundry other offences (5.9%) (Ferrante et al., 1998). Thus, delinquency tends to be commonly defined by the arrests and convictions of persons under the age of 18 reported in official crime reports and statistics and incarcerated delinquents comprise this population. It should be noted, however, that not all forms of delinquency are crimes. Furthermore, changes in juvenile arrest rates or convictions do not necessarily reflect changes in delinquency.

Many young people indulge in delinquent behaviours but because they do not receive an official caution or warrant or reach incarceration, they do not become part of the official statistics on delinquency. Research has shown that the majority of individuals involved in at-risk behaviours and who are processed by the juvenile justice system are males (Wundersitz, 1993). Prevalence rates of at-risk behaviour are generally estimated to be approximately 10 percent of young people with high risk and 25 percent with moderate risk of social maladjustment (Dryfoos, 1990). Recent research (Carroll, Houghton, Hattie, & Durkin, 1999; Houghton & Carroll, 1996) has shown that these adolescents are in an intermediate state of transition, whereby delinquent type goals are becoming more attractive to them often because of successive failures in mainstream activities (e.g., academic achievement). According to self-report data, approximately 50% of individuals engage in delinquent activities at some time during their adolescent years and as much as 98% of adolescent delinquent behaviour is not reported in official data (Dryfoos, 1990; Dunford & Elliot, 1982; West & Farrington, 1977).

That adolescents at risk have limited official data available pertaining to their delinquent status, the use of self-report measures may be highly beneficial. Self-report measures, in which individuals anonymously record their involvement in delinquent activities has been shown to reveal many undetected crimes (Blackburn, 1993; Emler, 1994; Farrington, 1986; Mak, 1993).

Two theories which attempt to explain the developmental origins of antisocial and criminal behaviour have been advanced by Moffitt and Patterson et al. Moffitt (1993) suggested that two groups make up the delinquent population. The first group is the life-course persistent offenders who show an early onset of antisocial behaviours and perseverance of these behaviours over the life course. The second group is the adolescent-limited offenders who engage in delinquent behaviours only during adolescence, and whose offending develops as a result of social mimicry and peer influence (Fergusson, Horwood, & Nagin, 2000). Similarly, Patterson et al. (1989, 1992, 1997) developed an account of early and late onset delinquency. They proposed that early-onset delinquency is mainly shaped by a series of family processes through which children learn that coercive and antisocial behaviours have an adaptive value. This pattern of early learning leads to a longer-term predisposition to antisocial behaviours that persist over the person's life course. For those individuals, however, who show late (after 14 years) onset offending, marked family difficulties are absent while affiliations with delinquent peers act to encourage, reward, and sustain tendencies to antisocial behaviours (Fergusson et al., 2000).

A further issue pertaining to the delinquent behaviours of adolescents at risk is how they change over time. Few studies have examined the longitudinal nature of this during the critical developmental period of early to middle adolescence. The most widely cited longitudinal study, the Cambridge Study (Farrington & West, 1990) tested and interviewed participants at a number of points in time from the ages of 8 to 32 years. The self-report data revealed that rates of delinquent activity between the ages of 10 and 18 years of age increased for theft, drug use, vandalism, and public disorder offences including assault. Farrington (1986) concluded that the causes of adult criminal convictions can be traced back to childhood, with the best predictor of convictions at age 14 to 16 years being troublesome behaviours at age 10 to 13 years and daring behaviour at age 8 to 10. Moreover, the juvenile delinquents and troublesome boys in the Cambridge Study were those who had experienced school failure at an early age.

More recently, Fergusson et al. (2000) report data from 936 young people aged 12 to 18 years involved in the Christchurch Health and Development Study (CHDS). This longitudinal study revealed four offending trajectory groups distinguishable by their level of offending probability and trends over time. Nonoffenders, moderate risk offenders, and chronic offenders displayed relatively stable offending probabilities over time, while the adolescent-onset offender displayed a sharp increase in offending behaviours from 14 to 18 years of age. The present research sought to examine rates of delinquency immediately prior to the onset of adolescence and to chart the trajectories of these behaviours during a critical period when many young persons begin their offending.

Method

Participants

The sample of participants in the present research initially comprised 249 Year 8 students (12 to 13 years of age) randomly selected from five high schools in the Perth metropolitan area of Western Australia. These students provided self-reported delinquency data each year for three consecutive years during Years 8, 9 and 10. Participants were assigned to either at-risk or not at-risk categories according to the results obtained from a checklist of behavioural and situational indicators established by the Western Australian Select Committee on Youth Affairs (Western Australian Legislative Assembly, 1992). The checklist comprises 12 behavioural indicators (e.g., truanting, disruptive behaviour) and 12 situational indicators (e.g., suspended, expelled, in time-out rooms) and were completed by the deputy principal and school psychologist in each of the schools at the first assessment point while participants were in Year 8. These professionals had the school records of each of the participants that allowed a stringent check to be made on their behaviours prior to and during the high school year.

At least three of the 12 behavioural and at least three of the 12 situational indicators from the list of risk factors needed to be checked for an individual student in order for them to be assigned to the at-risk category. Of the initial Year 8 participants, 41.4% were classified as at-risk. The cut-offs were based on the vulnerability classification within the Cambridge Study whereby individuals were categorised as

potential offenders by the age of 12 if they met at least three of the six vulnerability factors. In the present research, a more stringent criteria was applied in that participants were also required to be identified as vulnerable on at least three situational criteria. This additional requirement is in line with Moffitt's (1993) claim that individuals who show early onset anti-social behaviours have difficulties with both social and family environments. Sample distribution for the duration of the research is shown in Table 1.

Table 1

Distribution of Participants over Three Years

Risk Status	Gender	School Year			Totals
		8	9	10	
At risk	Male	79	51	29	159
	Female	24	11	15	50
Not at risk	Male	73	58	48	179
	Female	73	66	54	193
Totals		249	186	146	

The attrition rate over the three years for participants in this study was quite high (from 249 in Year 8 to 186 in Year 9 to 146 in Year 10). The largest number of students not available for subsequent questionnaire completion (in Years 9 and 10) was among the male and female at risk populations. Many at risk students "drop out" of school following Year 8 and this was found to be the case in the present study. There was also some attrition within the not at risk population. This was mainly due to students moving interstate or to other schools.

Settings

The participating schools were all Western Australian state government senior high schools. Two of the schools were located in low socio-economic status areas and had enrolments of approximately 1000 students. Two more schools were in middle socio-economic status areas each with approximately 1100 students on roll, and the fifth school was located in a middle to high socio-economic status area with approximately 900 students enrolled.

Instrumentation

The Adapted Self-Report Delinquency Scale (ASRD; Carroll, Durkin, Houghton, & Hattie, 1996) was administered to all participants on three separate occasions on a yearly basis. The Scale comprised 38 items with seven subscales: Theft and burglary, motor vehicle offences, drug-related offences, assault, vandalism, school-related offences, and public disorder. Reliabilities of the subscales ranged from .67 to .91. In addition, one item reporting police warnings and one item reporting court appearances were included in the scale to gain a measure of self-reported official delinquency status. A further four items were interspersed among the delinquency items in an effort to detect any tendency for an unusually high level of social desirability (Mak, 1993).

The readability of the Scale was at a year four level (approximately nine years of age) making it accessible to most individuals intended for inclusion in the present research. The reading ease score of the scale was 91, representing less than six years of schooling (Flesch, 1948). Participants were asked to respond to each of the items of the scale by placing a tick in the appropriate box. They were required to place a tick in the box labelled "yes" if they had been involved in the delinquent activity during the past 12 months, and conversely place a tick in the box labelled "no" if they had not been involved in the activity during the past 12 months. Following Mak (1993), a 12-month retrospective period was assessed because it was in line with suggestions of previous researchers (e.g., Canter, 1982; Hindelang et al., 1981).

Procedure

Prior to the research being conducted approval was gained from the Human Rights Committee of The University of Western Australia. Each parent of a Year 8

student in the five participating schools received an information sheet pertaining to the research and a consent form seeking permission for their child's involvement over the three years. The return response rate varied across schools, ranging from 40% to 68%. When a consent form was returned, the student was categorised as at risk or not at risk according to the indicators outlined previously, and the gender of the student was noted. Following a period of one week when no more consent forms were returned a 20% random selection was made of the returned consent forms. Participants were notified of their selection in the study and given the opportunity to either participate or withdraw from involvement. In the event all students agreed to participate.

The ASRD scale was administered to all participating students in a class setting by school psychologists who were given written instructions on test administration to ensure standardisation across schools and groups. Participants were provided with the same short verbal explanation about the study and were given the opportunity to ask any questions pertaining to it before and after the scale was distributed. The scale took approximately 10 to 15 minutes to complete. This administration procedure was followed in the subsequent two administrations when participants were in Years 9 and 10.

Results

The ASRD scale has been shown to be highly reliable (Carroll, 1994; Carroll et al., 1996). It was decided in the present study to determine the Cronbach's Coefficient Alpha for the subscales of the ASRD scale across the three years. As can be seen in Table 2 the estimated reliabilities for the ASRD scale range from .53 (Year 8) to .85 (Year 9). These data as shown in Table 2 indicate satisfactory internal reliability and also reflect the consistency of the subscales of the ASRD scale across the three years.

Table 2

Chronbach's Coefficient Alpha for the Adapted Self-Report Delinquency Scale over the three years.

Scale or subscale	Year 8	Alpha Year 9	Year 10
Factor 1: Theft and burglary	.77	.84	.77
Factor 2: Motor vehicle offences	.77	.85	.76
Factor 3: Drug-related offences	.75	.81	.76
Factor 4: Assault	.53	.68	.60
Factor 5: Vandalism	.82	.80	.72
Factor 6: School-related offences	.62	.68	.53
Factor 7: Public disorder	.75	.78	.67

Self-Reported Delinquency of Year 8 Students

An analysis of the Year 8 data gathered on the ASRD scale during the initial data collection point was conducted. A 2 x 2 (Risk Level by Gender) multivariate analysis of variance (MANOVA) revealed no significant interaction [$F(7, 239) = 0.51, p = .826$], but a significant main effect for both risk level [$F(7, 239) = 6.14, p < .0001$] and gender [$F(7, 239) = 5.30, p < .001$] for self-reported delinquency. As can be seen in Table 3, participants classified as at risk, self-reported significantly more involvement than their not at risk counterparts in six of the seven categories of delinquency; the exception being assault. Male Year 8 students self-reported significantly more involvement in car related crimes, assault, rule infractions, and vandalism compared to their female peers.

Table 3

Means, Standard Deviations (in brackets), F-Tests, Effect Sizes for the Dependent Variables of Self-Report Delinquency on Gender and Risk Level.

Variable	GENDER					RISK LEVEL				
	Male	Female	F-test	p-value	eta ²	At-risk	Not at-risk	F-test	p-value	eta ²
Theft	6.84 (1.51)	6.48 (0.93)	0.48	.490	.002	7.08 (1.71)	6.43 (0.87)	13.05	.001	.051
Car	7.57 (1.35)	7.12 (0.84)	5.71	.018	.023	7.68 (1.52)	7.20 (0.64)	5.43	.021	.022
Drugs	6.48 (1.20)	6.31 (0.81)	0.00	.996	.000	7.74 (1.45)	6.18 (0.58)	14.98	.001	.058
Assault	4.24 (0.67)	4.03 (0.23)	6.14	.014	.024	4.26 (0.75)	4.09 (0.33)	2.05	.154	.008
Rule Infraction	4.05 (1.70)	3.27 (0.62)	23.25	.001	.088	4.22 (1.11)	3.40 (0.74)	27.71	.001	.102
Vandal	7.39 (1.92)	6.56 (1.13)	6.21	.013	.025	7.63 (2.09)	6.68 (1.24)	13.19	.001	.051
Public disorder	7.65 (1.81)	7.02 (1.54)	1.46	.228	.006	8.18 (2.05)	6.86 (1.20)	30.19	.001	.110

*df = 1, 245

Frequency of Involvement in Self-Reported Delinquency: Years 8 to 10

As can be seen in Table 4, the frequencies of reported involvement in delinquent activities appears to correspond with the seriousness of the delinquent act, irrespective of the point of data collection (i.e., years 8, 9, or 10). For example, while over 35% of participants in year 8 admitted to tricking someone on the telephone, less than 1% were involved in the more serious crime of hit and run while driving a car. For some delinquent activities, the rates of involvement were alarming particularly given their degree of severity not only in the absolute percentages of involvement reported, but also the growing rates of involvement over time from years 8 to 10. For example, for purchasing alcohol there was an approximate six fold increase from year 8 to 10 from 8% to over 42%. Similarly for drinking alcohol in public places there was an almost four fold increase to over 45%, for using marijuana there was a three fold increase to over 46%, and for playing truant from school there was over a two fold increase to 49%. In comparison, the more serious delinquent activities also evidenced similar proportional increases from year 8 to 10: driving a car at high speeds in the city increased nearly three fold to 12.8%; ignoring a red light while driving a car increased over two fold to 4.5%; and peddling drugs increased over 2.5 fold to 9.6%.

Table 4

Rates of Involvement (in percentages) for each item of the Adapted Self-Reported Delinquency Scale across the three years

Item	Year 8	Year 9	Year 10
<i>Factor 1: Theft and burglary</i>			
Stolen money of >\$10	9.7	12.5	12.2
Broken into house/building with intent	6.4	9.3	6.4
Stolen money of <\$10	18.7	25.0	19.2
Stolen a bicycle or parts of a bicycle	7.8	11.9	6.4
Stolen things or parts out of a car/motorbike	3.0	6.5	3.2
Shoplifted	27.7	31.5	27.6
<i>Factor 2: Motor vehicle offences</i>			
Driven a car >100 km/hr in the metro area	4.5	5.4	12.8
Ignored a red light while driving a car	1.9	4.3	4.5
Joyriding in a stolen car	3.4	5.4	7.0
Stolen and driven a car	4.1	6.5	6.4
Raced with other vehicles	5.6	6.5	9.6
Driven without a motor vehicle licence	15.0	22.7	26.9
Driven an unregistered car	8.6	8.7	9.6
<i>Factor 3: Drug-related offences</i>			
Bought alcohol	7.9	17.4	42.3
Drunk alcohol in a public place	13.5	20.8	45.5
Used marijuana	15.4	22.2	46.1
Used hard drugs e.g., LSD, speed, ecstasy	3.0	5.9	12.8
Sold drugs	3.4	6.5	9.6
Driven a car/motor bike when drunk or >.08	3.4	4.3	6.4
<i>Factor 4: Assault</i>			
Taken part in a robbery, using a weapon/force	1.9	3.8	3.8
Used force to get things from others e.g., money	7.5	9.7	11.5
Been involved in a hit and run accident	0.8	1.1	1.3
Used a weapon of some sort e.g., knife	9.7	9.2	5.1

Table 4 continues

Item	Year 8	Year 9	Year 10
<i>Factor 5: Vandalism</i>			
Deliberately damaged school property	15.7	17.8	20.0
Deliberately damaged public property	19.8	16.8	17.3
Deliberately damaged private property	21.7	23.9	28.2
Deliberately started a fire	10.9	10.3	8.4
Tilted/banged on vending/games machines	22.5	26.6	22.4
Put graffiti on public places	25.5	25.9	28.2
<i>Factor 6: School-related offences</i>			
Taken part in a fist fight within a group situation	29.6	21.2	21.3
Deliberately hurt or beat up someone	30.0	26.5	25.6
Been suspended/expelled from school	18.0	20.0	20.5
<i>Factor 7: Public disorder</i>			
Tricked someone on the telephone	35.2	33.0	33.8
Gone to see an R rated film in the cinema	30.3	32.4	29.5
Made abusive phone calls	19.5	18.9	22.4
Got onto bus, into cinema and not paid fee	32.6	33.7	49.4
Not attended class/wagged school	22.5	31.7	49.0
Run away from home	10.5	12.6	12.3

Trends in Self-Reported Delinquency by Risk Level and Gender: Years 8 to 10

Repeated Measures Analyses of Variance were conducted to provide data on changes in the variables over time as a function of risk level and gender and are displayed in Table 5. As can be seen in Table 5: for **Theft** there was no significant change over time, nor were there any significant differences between males and females or at risk and not at risk participants; for **Motor Vehicle Offences** there was a significant increase over time with a significant differences between males and females but no differences between at risk and not at risk participants; for **Drugs** there was a significant increase over time with an interaction between at-risk and time; for **Assault** there was no increase over time but a significant difference according to gender with males reporting higher levels of involvement; for **Rule Infractions** there was a significant interaction for at-risk, gender and time and an increase over time; for **Vandalism** there was no significant change over time but a significant difference in at-risk; and for **Public Disorder** there was a significant change over time for the at risk participants. The means and standard deviations for interpreting the between subjects interaction effects and the within-subjects effects are shown in Table 6. Tables 7 and 8 show the means and standard deviations for interpreting the main effects of time and the between subjects main effect of risk level for the self-report delinquency factors, respectively.

Table 5
Repeated Measures ANOVA for Self-Report Delinquency

Variables	Between-subjects effects				Within-subjects effects				
	df	At-risk x sex	At-risk	Sex	df	At-risk x Sex x Time	Sex x Time	At-risk x Time	Time
Theft	1, 117	.885	.183	.279	2, 234	.957	.528	.986	.096
Motor vehicle	1, 117	.037	.231	.013	2, 234	.363	.168	.691	.001
Drugs	1, 117	.099	.977	.788	2, 234	.352	.501	.036	.000
Assault	1, 117	.118	.656	.004	2, 234	.495	.081	.491	.063
Rule Infrc.	1, 117	.388	.002	.001	2, 234	.048	.446	.603	.007
Vandal	1, 117	.432	.027	.432	2, 234	.460	.228	.430	.100
Public Dis	1, 117	.626	.021	.606	2, 234	.128	.369	.943	.000

Table 6

Means Tables for Interpreting the Between-Subjects Interaction Effects for (At-Risk x Sex) and the Within-Subjects Effects (At-risk x Sex x Time) Repeated Measures ANOVAs for the Variables of Self-Reported Delinquency

Variable	At-risk						Not at-risk					
	Males			Females			Males			Females		
	8	9	10	8	9	10	8	9	10	8	9	10
Theft	6.96 (2.21)	7.05 (1.84)	7.23 (1.77)	6.50 (0.76)	7.00 (1.41)	6.88 (1.13)	5.58 (0.84)	6.75 (1.39)	6.88 (1.81)	6.29 (0.67)	6.71 (1.10)	6.55 (1.06)
Motor Vehicle	7.46 (1.95)	8.00 (1.80)	8.50 (2.26)	7.13 (0.35)	7.25 (0.71)	7.13 (0.35)	7.10 (0.38)	7.28 (0.68)	7.83 (1.22)	7.06 (0.240)	7.28 (0.70)	6.65 (1.06)
Drugs	6.73 (1.98)	6.82 (1.53)	7.59 (1.840)	6.38 (1.06)	6.63 (1.41)	7.13 (1.64)	6.15 (0.43)	6.40 (0.98)	7.40 (1.61)	6.18 (0.68)	6.90 (1.38)	8.28 (1.58)
Assault	4.14 (1.08)	4.36 (0.95)	4.59 (1.10)	3.88 (0.34)	4.13 (0.34)	3.88 (0.34)	4.13 (0.40)	4.13 (0.46)	4.30 (0.52)	4.00 (0.01)	4.10 (0.36)	4.08 (0.27)
Rule Infraction	4.05 (1.21)	4.09 (1.07)	4.23 (0.92)	3.25 (0.71)	3.50 (0.76)	3.88 (1.13)	3.48 (0.68)	3.35 (0.70)	3.88 (1.02)	3.18 (0.48)	3.31 (0.62)	3.20 (0.57)
Vandalism	7.73 (2.75)	7.64 (2.11)	7.64 (1.65)	7.50 (1.51)	7.25 (2.05)	8.25 (1.83)	7.10 (1.68)	7.23 (1.66)	7.35 (1.76)	6.35 (0.74)	6.86 (1.36)	7.02 (1.41)
Public Disorder	7.96 (2.57)	8.23 (2.020)	8.23 (1.90)	7.25 (1.58)	7.50 (2.27)	8.75 (1.91)	6.85 (1.08)	7.08 (1.31)	7.93 (1.69)	6.78 (1.29)	7.28 (1.82)	7.77 (1.60)

Table 7

Means Tables for Interpreting the Main Effect of Time on the Repeated MeasuresANOVAs - Self-Report Delinquency

Variable	Year 8	Year 9	Year 10
Theft	6.52 (1.17)	6.80 (1.36)	6.80 (1.27)
Motor Vehicle	7.15 (0.87)	7.41 (1.01)	7.83 (1.41)
Drugs	6.28 (1.03)	6.70 (1.30)	7.79 (1.68)
Assault	4.06 (0.52)	4.16 (0.55)	4.23 (0.61)
Rule Infractions	3.44 (0.80)	3.48 (0.80)	3.65 (0.93)
Vandal	6.93 (1.70)	7.15 (1.66)	7.32 (1.62)
Public Disorder	7.05 (1.60)	7.40 (1.77)	7.97 (1.70)

Table 8
Means Tables for Interpreting the Between Subjects Main Effect of Risk Level and the Within-Subjects Risk x Time Effect on the Repeated Measures ANOVAs - Self-Report Delinquency

Variable	At-risk			Not At-risk		
	8	9	10	8	9	10
Theft	7.08 (1.71)	7.52 (2.16)	7.04 (1.59)	6.43 (0.87)	6.73 (1.24)	6.63 (1.08)
Motor vehicle	7.68 (1.52)	8.28 (2.01)	7.82 (1.72)	7.20 (0.64)	7.35 (0.87)	7.73 (1.15)
Drugs	7.74 (1.45)	6.98 (1.60)	7.27 (1.60)	6.18 (0.58)	6.65 (1.20)	7.78 (1.66)
Assault	4.26 (0.75)	4.54 (0.91)	4.29 (0.84)	4.09 (0.33)	4.11 (0.41)	4.19 (0.44)
Rule Infraction	4.22 (1.11)	4.36 (1.22)	4.09 (0.87)	3.40 (0.74)	3.39 (0.70)	3.50 (0.88)
Vandal	7.63 (2.09)	7.84 (2.04)	7.56 (1.71)	6.68 (1.24)	6.96 (1.49)	7.09 (1.54)
Public disorder	8.18 (2.05)	8.46 (2.07)	8.38 (1.86)	6.86 (1.20)	7.24 (1.59)	7.73 (1.63)

Discussion

A scale to measure self-reported delinquency was administered to the same two groups of at risk and not at risk high school students on three separate occasions over a period of three years (Years 8, 9 and 10). The scale has an established reading level which makes it suitable for at-risk adolescents experiencing learning difficulties (Carroll, 1994). In three separate administrations, the reliabilities of the ASRD scale were found to be robust, with the majority of the reliabilities exceeding .70.

As emphasised from the outset, while some Australian researchers (e.g., Mak, 1993) have obtained prevalence data of delinquency rates from nondelinquent high school samples, there appears to be limited research, if any, which has examined self-reported delinquency among high school students designated as at-risk, particularly over time. Hence, the findings from the present data provide unique insight into the developmental trajectories of young persons at-risk during the critical period when many young persons begin their offending.

Initial rates of involvement in delinquent activities, as reported by participants at the first data collection point (Year 8) revealed that at risk adolescents were significantly more involved than their not at risk counterparts in six of the seven categories of delinquency. These individuals scored particularly high in public disorder, drug use, vandalism, theft and burglary, and motor vehicle offences, all of which may be perceived as behaviours which contribute indirect harm to society in general. For offences which resulted in direct harm to others (e.g., assault), self-reported rates were considerably lower than for other offences and the mean scores of individuals designated as at risk and not at risk were similar. With reference to gender, male Year 8 students reported significantly higher levels of involvement in vandalism and motor vehicle offences. While significant differences were also found for assault and rule infractions, the reported levels were considerably lower. These data compare favourably with Ferrante et al., (1998) who found in their research, that burglary and theft, driving, good order, and property damage offences were the most frequent types of offences reported.

For the sample as a whole, rates of involvement in delinquent acts related to vandalism, public disorder, and assault were not consistent with increasing age. Conversely, marked increases were reported for motor vehicle and drug-related offences. For theft and burglary offences, there was a consistent increase for all delinquent acts from Year 8 to Year 9, which was followed by a consistent reduction in all acts in Year 10. School-related offences remained relatively constant over time. While Farrington reported similar findings for drug-related offences, the data in the Cambridge Study, pertaining to theft, vandalism, and public disorder offences showed continuing increases with age.

Unlike previous research, this present study has differentiated its male and female participants by their risk status, that is, whether they meet specific criteria which designates them as at risk of school failure and psychological and social adversity. An examination of the developmental trajectory of involvement in delinquent activity showed that for four of the seven delinquency factors, increases occurred over time with accumulated higher rates of involvement. In terms of differentiating between at risk and not at risk participants, the former reported higher levels of involvement in the more public offences of vandalism, public disorder, and rule infractions. It may be that at risk adolescents frequently participate in activities of a public nature and deliberately initiate highly visible conflict situations in order to establish the non conforming reputations they desire (Carroll, Houghton, Hattie, & Durkin, 1999). Recent research involving semi-structured interviews with at risk high school students (Houghton & Carroll, 1996; Martin, 1998) provides additional support for this assertion. The data tentatively support the developmental trajectory theories, particularly the second group known as adolescent-limited offenders identified by Moffitt (1993). The present study, however, only obtained data over a three-year period which precludes any claims pertaining to whether these adolescents became persistent life-course offenders.

The present research also differentiated reported rates of delinquency by gender. On three categories of offences, namely motor vehicle offences, assault, and rule infractions, males were found to score significantly higher. While much research has focused on the highly visible attention seeking behaviour of boys (e.g., Carroll, 1994,

1995; Hopkins & Emler, 1990), very little has been devoted to why some girls engage in socially inappropriate behaviours. The present research has also highlighted that on four of the seven types of delinquent offences, there were no significant differences between males and females, suggesting the need for further research.

In conclusion, the present research has confirmed that irrespective of risk status and gender, involvement in delinquent activities tends to increase with age for most individuals. Future research should attempt to unravel the antecedents to this perplexing outcome by an examination of the motivational determinants of why individuals indulge in delinquent activities.

References

- Blackburn, R. (1993). The psychology of criminal conduct: Theory, research and practice. New York: John Wiley and Sons.
- Carroll, A. (1994). The development of delinquency: Integrating reputation enhancement theory and goal setting theory. Unpublished doctoral dissertation, The University of Western Australia, Perth.
- Carroll, A. (1995). Characterising the goals of juvenile delinquents: Nature, content, and purpose. Psychology, Crime, and Law, 1, 247-260.
- Carroll, A., Durkin, K., Hattie, J., & Houghton, S. (1997). Goal setting among adolescents: A comparison of delinquent, at risk and not at risk youth. The Journal of Educational Psychology, 89 (3), 441-450.
- Carroll, A., Durkin, K., Houghton, S., & Hattie, J. (1996). A validation of Mak's self-report delinquency scale. The Australian Journal of Psychology, 48, 1-8.
- Carroll, A., Houghton, S., Hattie, J., & Durkin, K. (1999). Adolescent reputation enhancement: Differentiating delinquent and nondelinquent youths. Journal of Child Psychology and Psychiatry and Allied Disciplines,
- Dryfoos, J.G. (1990). *Adolescents at risk: Prevalence and prevention*. New York: Oxford University Press.
- Dunford, F.W., & Elliott, D.S. (1982). Identifying career offenders with self-reported data. Washington, DC: National Institute of Mental Health.
- Emler, N. (1984). Differential involvement in delinquency: Toward an interpretation in terms of reputation management. In B.A. Maher & W.B. Maher (Eds.), *Progress in Experimental Personality Research* (Vol. 13, pp. 173-237). New York: Academic Press.
- Farrington, D.P. (1986). Stepping stones to adult criminal careers. In D. Olweus, J. Block, & M.R. Yarrow. (Eds.), *Development of antisocial and prosocial behaviour: Research, theories and issues* (pp. 359-384). New York: Academic Press.

Farrington, D.P., & West, D.J. (1990). The Cambridge Study in delinquent development: A long-term follow-up of 411 London males. In H.J. Kerner & G. Kaiser (Eds.), *Criminality: Personality, behavior, life history* (pp. 115-138). Berlin: Springer-Verlag.

Ferrante, A.M., Loh, N.S.N., & Maller, M. (1998). Crime and justice statistics for Western Australia: 1996. Statistical Report (1996). Crime Research Centre: The University of Western Australia, Perth.

Fergusson, D.M., Horwood, L.J., & Nagin, D.S. (2000). Offending trajectories in a New Zealand birth cohort. Criminology, *38* (2), 525-551.

Hindelang, M.J., Hirschi, T., & Weis, J.G. (1981). Measuring delinquency. Beverly Hills, CA: Sage.

Houghton, S., & Carroll, A. (1996). Enhancing reputations: The effective use of behavior management strategies by high school adolescent males. Scientia Pedagogica Experimentalis, *XXXIII*(2), 227-244.

Langsford, S., Douglas, G., & Houghton, S., (1998). Gender and Age Specific Developmental Patterns of Risk Taking Behaviour Among Children and Adolescents: An Exploratory Study. Westminster Studies in Education, *21*, 7-20.

Lorion, R.P., Tolan, P.H., & Wahler, R.G. (1987). Prevention. In H.C. Quay (Ed.), Handbook of juvenile delinquency (pp. 383-416). New York: John Wiley.

Mak, A.S. (1993). A self-report delinquency scale for Australian adolescents. Australian Journal of Psychology, *45*(2), 75-79.

Martin, T. (1997). Enhancing reputations: The effective use of behavior management strategies by high school adolescent females. Unpublished Master of Education Thesis, The University of Western Australia.

Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. Psychological Review, *100*, 674-701.

Patterson, G.R., DeBaryshe, B.D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. American Psychologist, *44*, 329-335.

Patterson, G.R., Reid, J.B., & Dishion, T. (1992). A social interactional approach, Vol. 4: Antisocial boys. Eugene, Oregon: Castalia.

Patterson, G.R. & Yoerger, K. (1997). A developmental model for late onset delinquency. In D. Wayne Osgood (Ed.), Nebraska Symposium on Delinquency: Vol. 44. Lincoln, Nebraska: University of Nebraska Press.

Stahl, A. (1998). Delinquency cases in juvenile courts. Office of Juvenile Justice and Delinquency Prevention Fact Sheet 79. Author: U.S. Department of Justice.

West, D.J., & Farrington, D.P. (1977). The delinquent way of life. London: Heinemann.

Western Australia Legislative Assembly. (1992). The final report of the select committee on youth affairs. Perth: Office of the Clerk of the Legislative Assembly.

Wundersitz, J. (1993). Some statistics on youth offending: An inter-jurisdictional comparison. In F. Gale, R. Bailey-Harris, & J. Wundersitz (Eds.), Aboriginal youth and the criminal justice system: The injustice of justice? (pp. 18-36). Cambridge: Cambridge University Press.