



Patterns of Antisocial Behaviour from Early to Late Adolescence

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Adolescent antisocial behaviour is an issue of major concern to parents, teachers, police and governments and is a significant cost to the community. According to Victorian police statistics, young people between 10 and 24 years constituted almost 50 per cent of all persons apprehended for offending in 2002 to 2003 (Victoria Police 2004). As not all antisocial behaviour is recorded by police, it is valuable to measure adolescents' own reports of their involvement in such behaviour. Self reported measures allow questions to be answered about the types, rates and across-time patterns of adolescent antisocial behaviour and the degree to which such behaviour results in criminal justice contact. Better understanding of these behaviours can contribute to the development of prevention approaches. This paper, based on a collaborative research project between the Australian Institute of Family Studies and Crime Prevention Victoria, analyses data from a large longitudinal study of Victorian children. It focuses on the types and extent of antisocial behaviour at ages 13–14, 15–16 and 17–18 years and explores differing across-time patterns of such behaviour from early to late adolescence.

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A large and varied set of behaviours, ranging from quite serious to relatively minor acts, are commonly included in definitions of adolescent antisocial behaviour (for example Elliott & Ageton 1980; Mak 1993). The behaviours range from criminal acts such as physical assault or property offences (for example theft or vandalism) to socially unacceptable behaviours such as bullying or school truancy. Greater understanding of the course and causes of adolescent antisocial behaviour can inform early intervention and prevention efforts. A first step is to chart the across-time patterns of stability and change, and escalation and desistance, of such behaviour. Cross-sectional studies, which compare adolescents of differing ages at a single timepoint, can provide a snapshot of general trends. Longitudinal studies, which follow the same group of individuals over an extended period of time, can describe individual, as well as group, patterns of stability and change. For example, such studies can identify and investigate the patterns and antecedents of 'experimental' or 'persistent' adolescent antisocial behaviour (Kelley et al. 1997).

Few longitudinal Australian studies have measured the rates and types of antisocial behaviour at multiple age points from early to late adolescence. The present study, a collaboration between Crime Prevention Victoria (Victorian Department of Justice), and the Australian Institute of Family Studies, uses data from the Australian temperament project (ATP) to describe and analyse patterns of antisocial behaviour from 13 to 18 years among a representative community sample of Victorian adolescents. A more detailed account of the findings may be found in the first report of the project (Vassallo et al. 2002, available at the Australian Institute of Criminology web site: www.aic.gov.au, the Crime Prevention Victoria web site: www.crimeprevention.vic.gov.au, and the Australian Institute of Family Studies web site: www.aifs.gov.au/atp/).

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Overview of the Australian temperament project

The Australian temperament project is an ongoing longitudinal study that has followed the progress of a large group of Victorian children from infancy to 20 years of age (see Prior et al. 2000 for a more detailed description). The 2,443 children and families recruited came from 67 of Victoria’s 78 local government areas (LGAs), selected with advice from the Australian Bureau of Statistics to give a representative sample of the state. Twenty of the selected areas were urban (1,604 children) and 47 were rural (839 children). Families with an infant aged four to eight months who visited Infant Welfare Centres in the selected LGAs in a specified two week period in 1983 were invited to participate in the study.

Thirteen waves of data have been collected up to the year 2002 via mail surveys, with the aim of tracing pathways to psychosocial adjustment and maladjustment. Aspects assessed include the child’s temperament, behavioural and emotional problems, academic progress, health, social skills, peer and family relationships, family functioning, parenting practices, and family socio-demographic background (a combination of both parents’ education and occupational rankings). Parents, teachers and the children themselves have provided data at various stages of the project.

Approximately two-thirds of the cohort is still participating after 20 years. A higher proportion of the families who are no longer participating are from a lower socio-demographic background or include parents who were not born in Australia. Importantly however, the retained sample closely resembles the original sample on all facets of infant functioning, with no significant differences between the retained and no-longer-participating sub-samples on any infancy characteristics. Hence, while the study continues to include young people with a wide range of attributes, it contains fewer families experiencing socio-economic disadvantage than at the commencement of the study (although it still contains families living in diverse circumstances). As rates of antisocial behaviour tend to be higher among individuals from disadvantaged

families (Farrington & West 1993), the data reported here are likely to be conservative and slightly under-estimate rates of adolescent antisocial behaviour in the general community.

The findings reported here are based on the adolescent respondents who participated in the survey waves conducted in 1996, 1998 and 2000. The number of participants varied somewhat across the three survey waves, with 1,358 responding at 13–14 years, 1,310 at 15–16 years (99% of whom were still at school) and 1,260 at 17–18 years (approximately 81% of whom were still at school, slightly higher than the Victorian Year 12 retention rate in 2000 of 78%, ABS 2003). Response rates were 82 per cent, 80 per cent and 79 per cent among those who were still participating in the study at the respective timepoints.

Measures

During the three data collection waves in 1996, 1998 and 2000, when the young people were aged from 13 to 18 years, adolescents reported on their engagement in antisocial behaviour. A short form of the Moffitt and

Silva (1988) Self report of delinquency scale was used to measure adolescents’ involvement in antisocial behaviour during the previous 12 months, using the items listed in Table 1. As young people traverse the adolescent years, they engage in a greater variety of antisocial acts (Moffitt et al. 2001). Thus, items were added at each timepoint to take into account these age-related changes in the nature of adolescent antisocial behaviour.

How many adolescents were involved in antisocial behaviour, and what types of behaviour were most common?

The rates and types of antisocial behaviour measured are shown in Figures 1 to 4. The figures show the percentage of adolescents who reported engaging in this behaviour on one or more occasions during the preceding 12 months (or on one or more days in the last month for substance use). To aid interpretation, antisocial acts have been

Table 1: Assessment of antisocial behaviour	
At 13–14 (1996), 15–16 (1998) and 17–18 (2000) years	
• Been in a physical fight with another person	• Damaged something in a public place on purpose
• Stolen something from a person or a house	• Driven a car without permission
• Been suspended or expelled from school	• Graffiti drawing in a public place
• Carried a weapon e.g. a gun, knife	• ‘Wagged’ (skipped) school
• Frequency of cigarette use*	• Frequency of alcohol use*
• Frequency of marijuana use*	• Frequency of sniffing inhalants*
• Frequency of other drug use*	
Additional items used at 15–16 and 17–18 years	
• Shoplifted	• Run away from home and stayed away overnight or longer
• Been in contact with, or cautioned by, police for offending	• Been charged by police
• Appeared in court as an offender	• Frequency of binge drinking*
• Frequency of drunkenness*	• Deleterious consequences of drinking alcohol (for example accidents, negative impact on school or work, trouble with police)*
Additional items used at 17–18 years	
• Sold illegal drugs	• Been convicted in court of a criminal offence
• Attacked someone with the intent of seriously harming them	• Deleterious consequences of marijuana and other drug use (see above examples)*
• Substance dependence (alcohol, marijuana or other drugs)*	

* These items assessed behaviours which took place within the past month

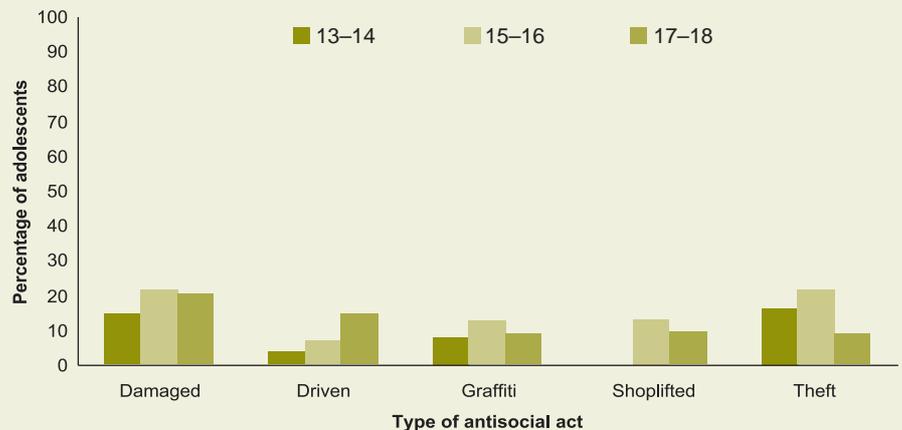
grouped into four categories: (a) property offences, (b) violence, (c) authority conflict acts, and (d) substance use.

Looking at trends across all categories of antisocial behaviour, the most common types of antisocial acts in early adolescence were fighting (32%), alcohol use (25%), theft (16%) and property damage (14%). Similar trends emerged in mid adolescence, with rates of cigarette use (28%) and skipping school (27%) relatively common as well. By late adolescence the most common types of antisocial acts were alcohol use (84%), skipping school (43%), cigarette use (39%), fighting (23%), property damage (20%), marijuana use (19%) and driving a car without permission (15%). All other types of antisocial behaviour were uncommon (rates of 10% or lower). Thus, substance use was the most prevalent category of antisocial behaviour, with aspects of violence (fighting) and property offences (theft, property damage) also relatively common. Nevertheless, it should be noted that generally, few individuals engaged in these antisocial acts more than once, the exceptions being property damage, skipping school, fighting, and most types of substance use (see Vassallo et al. 2002 for details).

Another way of investigating the occurrence of adolescent antisocial behaviour is to look at the total number of different antisocial acts that individuals engage in. Some acts – alcohol or cigarette use and skipping school – while socially undesirable and/or illegal at these ages, were found to be so common as to appear almost normative. These behaviours were therefore excluded from the computation of the total number of antisocial acts. Contact with the criminal justice system for offending was also excluded as it is a consequence, not an instance, of antisocial behaviour.

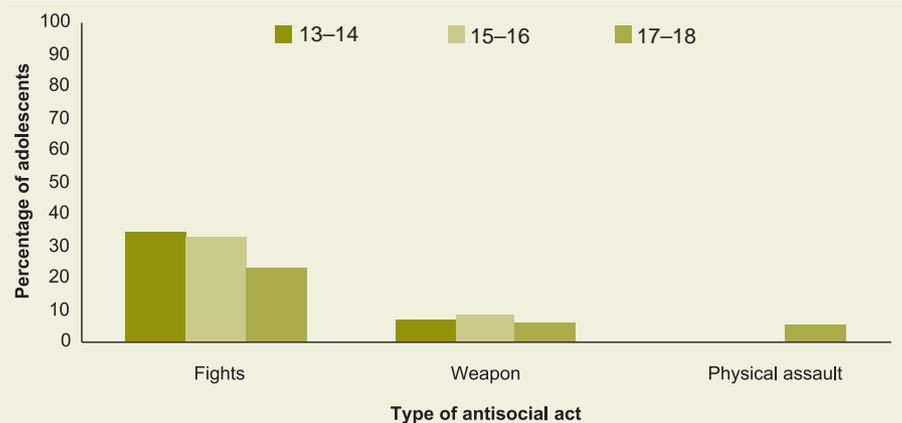
Approximately half the adolescents reported involvement in some form of antisocial behaviour during the previous 12 months. A total of 53 per cent of 13–14 year olds, 46 per cent of 15–16 year olds, and 48 per cent of 17–18

Figure 1: Percentage of adolescents who engaged in a property offence at the various ages



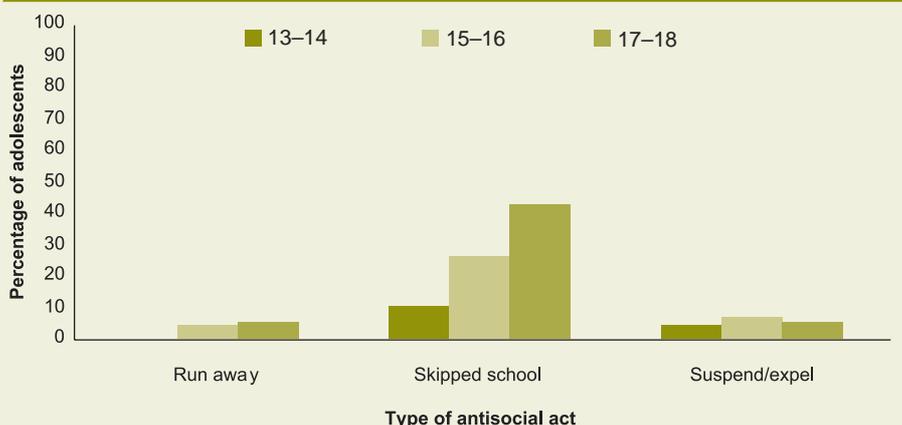
Note: Damaged = damaged something in a public place on purpose
 Driven = driven a car without permission
 Graffiti = graffiti drawing in public places
 Theft = stolen something from a person or a house

Figure 2: Percentage of adolescents who engaged in a violent act at the various ages



Note: Fights = been in a physical fight with another person
 Weapon = carried a weapon e.g. gun, knife

Figure 3: Percentage of adolescents who engaged in an authority conflict act at the various ages



Note: Run away = run away from home and stayed away overnight or longer
 Suspended/expel = been suspended or expelled from school

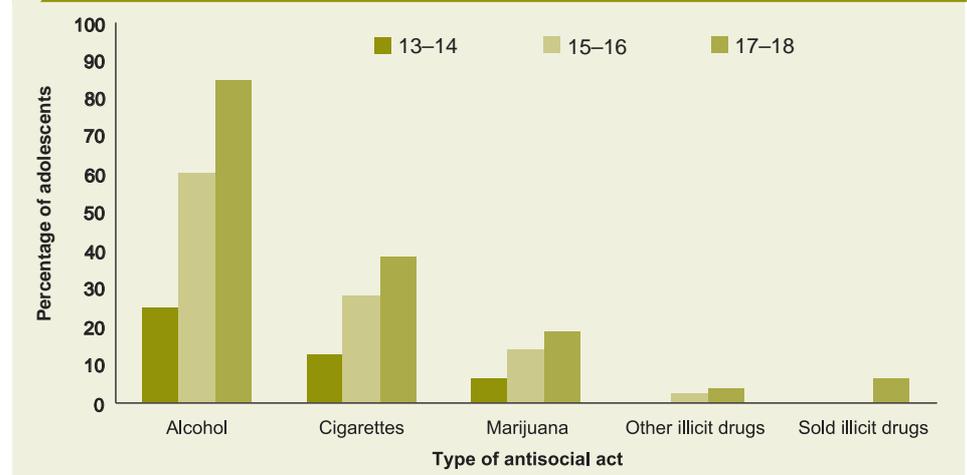
year olds reported no antisocial behaviour at all, while one-third reported engaging in one or two antisocial acts. Only a minority had committed numerous types of antisocial acts, with 12 per cent at 13–14 years and about 20 per cent at 15–16 and 17–18 years engaging in three or more different types of antisocial acts. The highest number of different antisocial acts reported was eight at 13–14 years, 11 at 15–16 years, and 13 at 17–18 years.

Were there gender differences?

T-test analyses were used to compare males and females on rates of involvement in differing antisocial acts from 13 to 18 years (details are available upon request). There were no significant gender differences on any type of substance use at any age. Males had engaged significantly more often in almost all other types of antisocial acts. Exceptions to this trend were: no gender differences on theft or shoplifting at any age, skipping school at 13–14 and 15–16 years, running away from home (17–18 years) or attacking someone with intent to harm (17–18 years); while females engaged in graffiti drawing significantly more often than males at 13–14 and 15–16 years, had run away from home significantly more often at 15–16 years, and skipped school more often at 17–18 years.

Particularly notable was the much higher rate of fighting among males (for example 52% of males at 13–14 years compared with 15% of females). While few adolescents had been suspended or expelled from school, rates were higher among males than females (ranging from 6 to 9% over the three timepoints compared with 2 to 4% of females). Similarly, males had higher rates of most property offences, such as damaging property (19 to 32% over the three timepoints vs. 8 to 11% of females) and driving a car without permission (5 to 19% over the three timepoints vs. 2 to 11% of females). Males had also more often been in contact with the criminal justice system for offending (for example 19% of males and 6 to 8% of females had

Figure 4: Percentage of adolescents who used or sold substances at the various ages



Note: For all substances, the questions asked about use in the last month

been in contact with the police for offending at the various timepoints).

What were the across-time trends in adolescent antisocial behaviour?

Figures 1 to 4 display the across-time trends in antisocial behaviour. Looking firstly at property offences (Figure 1), theft and graffiti drawing appeared to peak in mid adolescence and then decline, while driving a car without permission steadily increased over time and property damage was relatively stable. In terms of violent behaviours (Figure 2), rates of fighting were similar over early and mid adolescence and began to decline in late adolescence, while carrying a weapon remained steady across time. With the exception of skipping school, rates of authority conflict acts were low and stable from 13 to 18 years (Figure 3). Rates of contact with the criminal justice system were steady across mid and late adolescence. While approximately 10 per cent of adolescents had been in contact with police for offending, most were dealt with at the time with no further action taken. Very few (less than 5%) had been charged or taken to court for offending.

Figure 4 shows that rates of substance use rose through the adolescent years with the exception of illicit drug use other than marijuana, which was stable and very rare overall. The substance use rates found here are comparable to the Victorian adolescent health and well-being survey (VAHWS) data, which was collected in

1999 and used similar sample ages and measures (Bond et al. 2000). For example, the ATP rates of recent cigarette use were 12 per cent (Year 8), 28 per cent (Year 10) and 38 per cent (Year 12), compared with the VAHWS rates of use in the last month of nine per cent (Year 7), 26 per cent (Year 9), and 37 per cent (Year 11). For alcohol, the ATP rates were 25 per cent, 60 per cent and 84 per cent, compared with VAHWS rates of 27 per cent, 47 per cent and 67 per cent. For marijuana, the ATP rates were seven per cent 13 per cent and 19 per cent, compared with four per cent, nine per cent and 16 per cent (VAHWS). ATP adolescents were one year older than VAHWS adolescents at each comparison, which is the probable reason for the higher rates of substance use among the ATP sample, reflecting the increasing substance use that occurs across adolescence.

Were there individual patterns of stability and change in antisocial behaviour?

Differing trajectories of antisocial behaviour from 13 to 18 years were investigated. Firstly, individuals were classified as displaying high or low levels of antisocial behaviour at each timepoint. Thus, adolescents who reported engaging in three or more different types of antisocial acts during the previous 12 months (excluding skipping school, cigarette/alcohol use and criminal justice contact) were classified as 'antisocial' at that timepoint. This accords with the criteria for conduct

disorder according to diagnostic systems such as the Diagnostic and statistical manual of mental disorders (DMS IV; APA 1994). Those who reported fewer than three different antisocial acts during the previous 12 months were classified as 'low/non-antisocial' at that timepoint.

Following this, the classifications at the three timepoints were used to identify differing, across-time patterns of antisocial behaviour. While a number of trajectories were found, three main groups were identified. These were:

- 844 '*Low/non-antisocial*' individuals, 345 males, 499 females (these adolescents reported no or low levels of antisocial behaviour at all three timepoints);
- 88 '*Experimental*' individuals, 38 males, 50 females (these reported high antisocial behaviour only once at 13–14 or 15–16 years but had desisted by 17–18 years); and
- 131 '*Persistent*' individuals, 85 males, 46 females (these reported high antisocial behaviour at two or more timepoints, including the latest timepoint of 17–18 years).

The three groups differed in gender proportions, with 41 per cent of the low/non-antisocial group being male, compared with 43 per cent of the experimental and 65 per cent of the persistently antisocial groups. The low/non-antisocial trajectory was the most common, with 74 per cent of adolescents on this pathway. Twelve per cent of adolescents appeared to be on a 'persistently antisocial' pathway, and a further eight per cent on an 'experimental' pathway.

At all timepoints, persistently antisocial individuals significantly more often engaged in all types of antisocial acts than low/non-antisocial individuals (Vassallo et al. 2003). Similarly, rates of almost all types of antisocial behaviour were consistently significantly higher among persistent than experimental adolescents (the exceptions being driving a car without permission and marijuana use at 13–14 years; graffiti drawing, running away from

home and marijuana use at 15–16 years). Persistently antisocial individuals had also been in contact with the criminal justice system for offending more frequently than experimental individuals. Significantly more experimental than low/non-antisocial individuals engaged in property offences in early and mid adolescence (for example property damage, theft, graffiti), marijuana use (at 13–14 years), and running away from home (at 15–16 years).

Discussion and Implications

Consistent with previous research, some engagement in antisocial behaviour was found to be common. Some types of antisocial acts, for example alcohol and cigarette use and skipping school, were so prevalent as to seem 'normal', suggesting that these aspects may not be particularly useful in identifying adolescents prone to antisocial behaviour. Overall, most adolescents were involved in a limited number and range of antisocial acts. Notably, engagement in more 'serious' acts, for example assault with the intent of serious injury, was rare. Few individuals engaged in antisocial acts on more than one occasion, and only about one-fifth engaged in multiple types of antisocial acts. Hence, while occasional involvement in minor anti-social acts was common, engagement in multiple forms of antisocial behaviour, or in more 'serious' acts, was unusual and atypical and hence a greater cause for concern.

These findings parallel other Australian research in showing that the rates of many types of antisocial behaviour peak in mid adolescence and then decline (Baker 1998; Bond et al. 2000). Not all types of antisocial behaviour peaked in mid adolescence, however, with rates of several behaviours remaining stable or escalating. The group trends also masked other patterns of behaviour, for example persistent, stable across-time, antisocial behaviour. Considerable variation in the across-time rates of particular antisocial behaviours was evident.

With the exception of substance use, male adolescents more often engaged in almost all types of antisocial acts than female adolescents, and violent behaviour was much

more prevalent among males. Furthermore, when females became highly involved in antisocial behaviour in early or mid adolescence they were equally likely to have a transient or persistent involvement, whereas only a minority of highly antisocial males became transiently involved and two-thirds were persistently antisocial across adolescence. Thus, early engagement in antisocial behaviour tended to lead to an ongoing, long-term involvement among adolescent males.

However, a number of females did display persistent antisocial behaviour. The popular perception is that persistent antisocial behaviour is predominantly a male phenomenon. In this study, while antisocial behaviour was clearly much more common among males, one third of persistently antisocial adolescents were females. Little is known about this subgroup of females. For example, are their developmental pathways similar or different to antisocial males? This issue has important implications; for example in determining whether differing intervention strategies may be necessary for males and females.

Distinct across-time patterns of experimental and persistent antisocial behaviour were found. Antisocial behaviour often results in considerable personal, social and economic costs to individuals, families, schools and the wider community. Overall, one in five adolescents displayed high levels of anti-social behaviour at some stage between 13 and 18 years, with 12 per cent involved in persistent, and eight per cent in experimental, antisocial behaviour.

Persistently antisocial adolescents engaged in all types of antisocial acts more often than the low/non-antisocial group. Hence, it did not seem that the persistently antisocial group was prone to greater involvement in some types of antisocial acts than others (that is they were 'versatile' rather than 'specialists'). However, the experimental group tended to engage in a more limited range of antisocial behaviours when compared to their low/non-antisocial counterparts (primarily property offences during early and mid adolescence). Even when the experimental

group engaged in antisocial behaviour, this tended to be at lower levels than the persistently antisocial group. Thus, engagement in violence, and higher levels of involvement in antisocial behaviour during early or mid adolescence, tended to be indicative of an entrenched, persistent pattern of antisocial behaviour.

It will be important to follow the progress of these two antisocial groups into adulthood to assess the long-term impact of antisocial behaviour on young people's wellbeing and development, and the continuity of antisocial behaviour. New Zealand research has shown that individuals who engaged in 'life course' and 'adolescent limited' antisocial behaviour tended to have enduring difficulties, with higher rates of mental health problems, substance dependence, financial problems and criminal behaviour at 26 years of age (Moffitt et al. 2002).

These self-report data show that much of the antisocial behaviour reported by adolescents did not lead to contact with the criminal justice system, although it should be noted that some of the acts included in the definition of antisocial behaviour are not criminal offences and thus would not warrant official attention (for example fighting, school suspension/expulsion). At 15–16 and 17–18 years, approximately 20 per cent of adolescents reported engaging in high levels of antisocial behaviour, but only just over 10 per cent of the cohort reported contact with the police for offending, and very few reported being charged or appearing in court. Of those who had come to the attention of police, three-quarters received a warning or caution, with no further action taken over the incident. Interestingly, persistently antisocial adolescents had more often come to the attention of criminal justice agencies than experimental antisocial adolescents.

It appears that minor antisocial acts, which form the bulk of the antisocial behaviour reported by this cohort, generally do not result in criminal justice contact, and may not be represented in official records. Thus, official statistics concerning the incidence of juvenile crime may underestimate the rate of adolescent antisocial behaviour.

There are several messages for the timing and targeting of prevention and intervention strategies in these findings. Interventions may occur during the onset of antisocial behaviour to limit its continuation and escalation, or at an earlier stage in pathways to antisocial behaviour to prevent its development. The current findings suggest that interventions in early adolescence, particularly with males, would be an effective time for interventions aiming to restrict the entrenchment of antisocial behaviour. Other findings from this collaborative project have shown that the early adolescent years can be a sensitive transition point and a time of considerable change, suggesting that interventions may be successful at this age (Smart et al. 2003; Smart et al. 2004). Interventions in pathways to antisocial behaviour which aim to prevent its development would be most effective during early and mid childhood when risk factors for antisocial behaviour become evident (Homel et al. 1999; Vassallo et al. 2002). Thus, there may be several opportunities to intervene, reinforcing Loeber and Farrington's (1998) conclusion that interventions aimed at preventing or mitigating adolescent antisocial behaviour can occur 'never too early, never too late'.

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