



The Research, Development and Statistics Directorate exists to improve policy making, decision taking and practice in support of the Home Office purpose and aims, to provide the public and Parliament with information necessary for informed debate and to publish information for future use.

Findings are produced by the Research, Development and Statistics Directorate.

For further copies visit:  
<http://www.homeoffice.gov.uk/rds/pubintro1.html>

## Anti-social and other problem behaviour among young children: patterns and associated child characteristics

Erica Bowen, May El Komy and Jon Heron

This Findings examines patterns of anti-social and other problem behaviour amongst young children and seeks to identify some of the individual child and family characteristics that are associated with such behaviour. The findings are based on results from the Avon Longitudinal Study of Parents and Children (ALSPAC). This is a large study following a cohort of children born to mothers living in Avon while pregnant in the early 1990s. Findings are based on a sample of 5,757 children (2,834 males, 2,923 females) for whom there was data on anti-social behaviour at both age 8½ and 10½ from the overall ALSPAC sample.

These Findings are based on the data that was available at the time of writing; that is to age 10½. It therefore identifies anti-social and other problem behaviours among young children, where these are apparent at an early age.

### Key points

- 70% of the children did not report involvement in any anti-social or other problem behaviour at all, while 30% reported some form of anti-social or other problem behaviour at some stage.
- 15% of the sample reported involvement in anti-social or other problem behaviour at age 8½ only; 9% of the sample reported involvement in such behaviour at age 10½ only; and 6% of the sample reported involvement in such behaviour both at age 8½ and again at age 10½.
- More males than females at these ages reported involvement in anti-social or other problem behaviour. Males also reported involvement in a greater number of anti-social behaviours than females.
- Involvement in a number of types of behaviour prior to age 8½ significantly increased the likelihood of involvement in further anti-social and other types of problem behaviour at age 10½. These types of behaviour were: smoking a cigarette; setting fire to property; carrying a weapon in case of a fight; and, drinking alcohol without parental permission. This suggests a strong association between these types of behaviour rather than a causal relationship.
- The children who reported involvement in anti-social behaviour at both assessment time points (8½ and 10½) had significantly greater conduct problems, a higher level of family adversity, lower levels of prosocial behaviour, lower levels of performance IQ and poorer friendship quality.

A considerable body of research has examined the links between anti-social behaviour and offending later in life. It shows that anti-social behaviour during childhood is one of the strongest predictors of later adult anti-social behaviour especially serious, habitual and violent offending (Benda, Corwyn and Toombs, 2001; Farrington, 1998; Patterson et al., 1998;

Loeber and Dishion, 1983). Although this persistent anti-social behaviour is evident in only 6% of the population (Moffitt et al., 1996), it has been found that these individuals are responsible for a disproportionate level of anti-social behaviour and offending (Elliott, Huizinga and Morse, 1986).

In the light of previous research, the current study draws on a longitudinal dataset with a view to further examine the patterns of anti-social behaviour among young people. Self-reported involvement in a list of types of behaviour was assessed at ages 8½ and 10½. In addition, the study examined the association between involvement in these types of behaviour and a number of individual and family characteristics assessed from mother's pregnancy to age 10½ years.

## Methods

The sample of 5,757 children constitutes 41% of the 13,971 children who formed the ALSPAC cohort at age 12 months. The families in the overall ALSPAC cohort are broadly characteristic of families in Britain as a whole. However, the families of the children who formed the sample for the current study were not representative of the entire ALSPAC cohort. The mothers of children in the sample used in this study were on average older, better educated, and were more likely to be living in a house that they owned or for which they had a mortgage than were the mothers of children not in the sample. In addition, the children themselves in the current sample were significantly less likely to be of minority ethnic origin (see Methodological note for details).

These findings are drawn from data based on:

- clinic sessions attended by the children at 8½ and 10½
- interviews with the children at ages 8½ and 10½
- parental questionnaires completed from pregnancy and through to the time when the child reached 7 years.

The term anti-social behaviour can be used to describe a range of behaviours which may be found to be offensive or distressing. For the purpose of this study, children were asked about a range of behaviours; some of which fall within the typology of anti-social behaviour devised by the Home Office's Research, Development and Statistics (RDS)

division (Harradine et al., 2004) and others which do not. This reflects the fact that children as young as those in this study are unlikely to have the opportunity to engage in many of the forms of anti-social behaviour as defined in the RDS typology. Also, many types of behaviour which are not defined as anti-social behaviour can be regarded as problem behaviour for children at this age. Therefore, it is appropriate to define the types of behaviour in this study as 'anti-social and other types of problem behaviour'.

Table 1 describes the anti-social and other types of problem behaviour asked about at each time point. As shown in Table 1, at age 10½ children were asked about their involvement in a greater number of types of behaviour. This reflects the expectation that they will have more opportunity for involvement in such behaviour as they get older.

## Findings

### Prevalence of anti-social behaviour

The children were asked at age 8½ whether they had ever committed each of the behaviours listed in Table 1, enabling baseline data to be established. At age 10½, the children were asked about their involvement in anti-social behaviour in the previous six months. It should be noted that the different wording of the questions means that any differences between those reporting anti-social behaviour at age 8½ and those reporting at age 10½ are not directly comparable.

Based on the patterns of reported anti-social and other problem behaviour (see Figure 1):

- 70% (4,029) of the sample did not report involvement in any of the types of behaviour at either time point
- 15% (888) only reported having ever been involved in any of the types of behaviour at age 8½
- 9% (489) only reported involvement in any of the types of behaviour in the previous 6 months at age 10½

**Table 1 Types of anti-social behaviour and other problem behaviour asked about at ages 8½ and 10½**

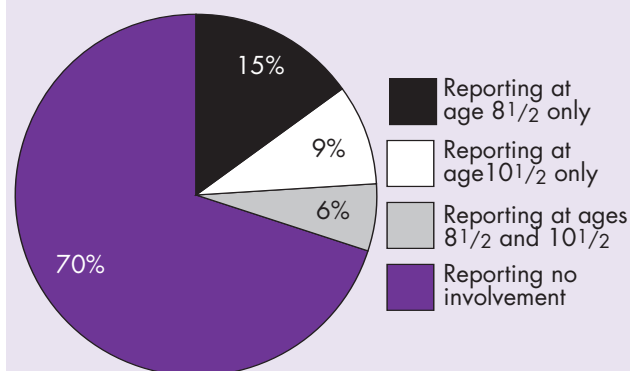
#### Behaviour asked about at age 8½

- stolen: bicycles, from a shop, from a house/garden, from a car, entered a building to steal, pick-pocketed
- used substances: drunk alcohol, smoked cigarettes without parental consent
- set fires to property
- been intentionally cruel to animals
- carried a weapon in case of a fight (weapons were defined as any items which the child judged could be used in a fight)

#### Behaviour asked about at age 10½

- stolen: bicycles, from a shop, from a house/garden, from a car, entered a building to steal, pick-pocketed
- used substances: drunk alcohol, smoked cigarettes without parental consent
- set fires to property
- been intentionally cruel to animals
- got into a fight
- used a weapon in a fight (asked only of those who reported having been in a fight)
- smoked cannabis
- destroyed something for fun
- truanted

**Figure 1 Percentage of children self-reporting involvement in anti-social or other problem behaviour**



- 6% (351) reported involvement in any of the types of behaviour at both ages 8½ and at 10½.

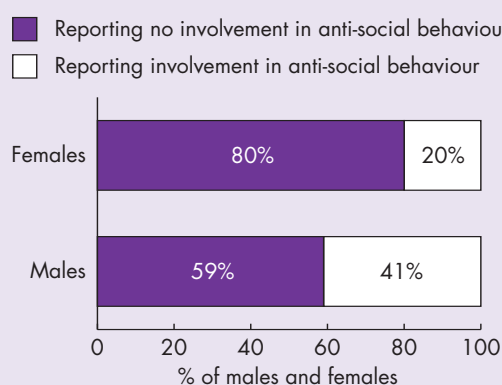
The greater number of children reporting involvement in anti-social or other problem behaviour at the earlier time point is due to the different way in which the question was asked (i.e. 'ever' at age 8½ and 'in the previous six months' at age 10½).

#### Gender differences

Proportionately more males than females overall reported involvement in anti-social or other problem behaviours (see Figure 2).

The number of types of anti-social and other problem behaviour reported by males was also greater than females. At both age 8½ and at age 10½, males were significantly more involved in anti-social behaviour than females.

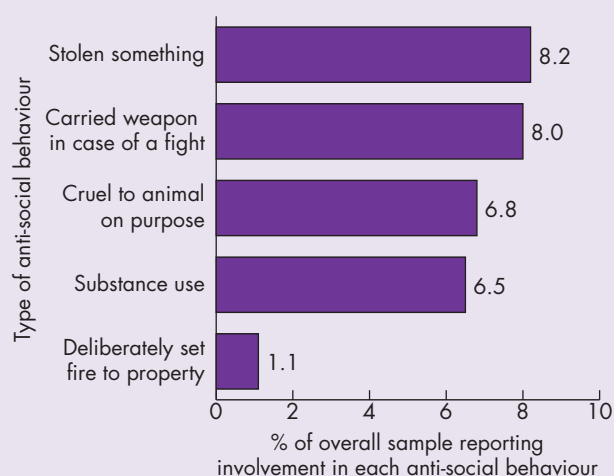
**Figure 2 Gender differences in involvement in anti-social behaviour**



#### Prevalence of involvement in behaviour types as reported at age 8½

A total of 1,239 (22%) children reported involvement in at least one type of anti-social or other problem behaviour at the age 8½ assessment. Figure 3 shows their involvement in each type of behaviour.

**Figure 3 Types of anti-social or other problem behaviour ever involved in as reported at age 8½**



#### Involvement in types of anti-social and other problem behaviour as reported at age 10½

A total of 840 children (15%) reported involvement in at least one type of anti-social or other problem behaviour in the six months prior to the assessment at age 10½.

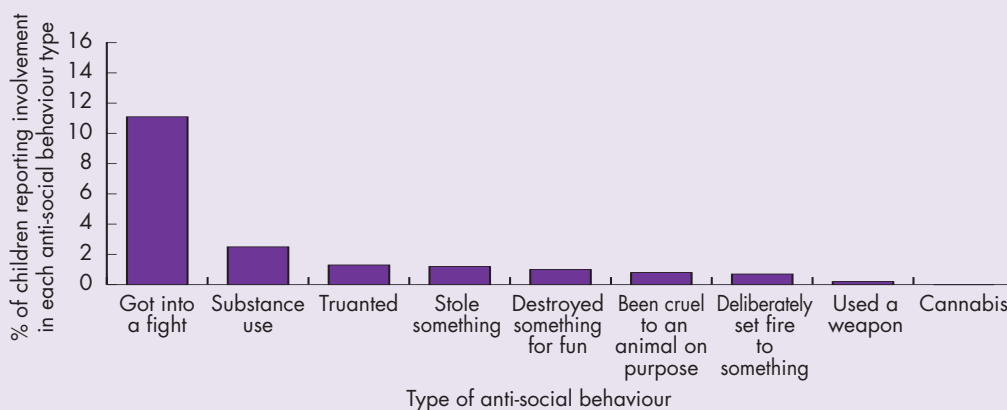
Figure 4 shows that by far the most frequently cited behaviour reported at age 10½ was getting into a fight. The next most common behaviour was using a substance (smoking or drinking alcohol without parental consent).

#### Characteristics associated with involvement in anti-social or other problem behaviour

A multivariate analysis of variance (MANOVA – see Methodological note) was used to examine a number of individual and family characteristics. This enabled a comparison of the characteristics associated with those reporting anti-social or other problem behaviour and those who did not report any involvement in such behaviour. The following social and psychological characteristics were examined:

- family adversity (e.g. parental criminality, inadequate housing, financial problems)
- negative emotionality (e.g. difficulty, moods, temper tantrums)
- shyness/withdrawal
- general development (e.g. motor skill development, expressive language)
- language (vocabulary)
- conduct problems (e.g., hyperactivity, problem behaviour)
- prosocial behaviour (behaviour that benefits other people such as empathy)
- peer problems and friendships (e.g. peer problems, friendship quality)

**Figure 4 Types of anti-social or other problem behaviour involved in during previous six months as reported at age 10½**



- attention (ability to control, switch and sustain attention)
- intelligence (verbal and spatial).

In comparison to the rest of the sample, those that did not report any involvement in anti-social or other problem behaviour had the:

- lowest levels of family adversity (including better housing, better family networks, fewer financial difficulties)
- easiest temperaments (fewer bad moods and tantrums)
- most advanced motor skills and social development
- most advanced language development
- better cognitive skills (assessed using various tests of child development)
- lowest levels of conduct problems (measures used to assess this include 'blames other people for things'; sometimes bullies other children)
- lowest levels of hyperactivity
- most prosocial (assessed using measures such as 'is considerate of other people's feelings')
- good peer relationships
- greatest levels of shyness at three years.

#### Differences in involvement in types of anti-social and other types of problem behaviour

There were a number of differences between those children who reported involvement in anti-social and other problem behaviour at one time point only (i.e. only at age 8½ or only at age 10½) and those children who reported involvement in such behaviour at both time points.

In comparison to those who reported involvement in anti-social and other problem behaviour at age 8½ only, those children who reported involvement in such behaviour at both time points were more likely to report involvement in most of the types of behaviour at age 8½.

In particular, they were significantly more likely to report:

- setting fire to property
- substance use (smoking or drinking alcohol without parental consent)
- carrying a weapon in case of a fight.

In comparison to those children who only reported involvement in anti-social and other problem behaviour at age 10½, those who reported involvement in this behaviour at both time points were more likely to report involvement in most of the types of behaviour at age 10½. In particular, they were significantly more likely to report:

- being cruel to animals on purpose
- stealing something
- substance use (smoking or drinking alcohol without parental consent).

#### Behaviour associated with further involvement in anti-social or other problem behaviour

To further explore differences in the involvement of different types of behaviour, analysis was conducted to examine whether some of the behaviour reported at age 8½ was indicative of the likelihood to also report involvement in anti-social or other problem behaviour at age 10½. The figures presented in Table 2 show the relative risk ratios reflecting the likelihood of involvement in anti-social or other problem behaviour at age 10½ based on involvement in types of behaviour prior to age 8½.

Table 2 shows a number of statistically significant findings – those children who reported:

- smoking a cigarette at age 8½ were 1.8 times more likely to report involvement in anti-social or other problem behaviour at age 10½
- setting fire to property at age 8½ were 1.7 times more likely to report anti-social or other problem behaviour at age 10½

**Table 2 Behaviour reported at age 8½ associated with involvement in anti-social or other problem behaviour at age 10½**

Type of behaviour	Relative risk
Smoked a cigarette*	1.755
Set fire to property*	1.703
Carried a weapon in case of a fight*	1.652
Drank alcohol*	1.575
Entered a building to steal	1.181
Stole bike/skateboard	1.136
Taken from a shop without paying	1.073
Stolen from house/garden/garage	1.045
Stolen from a car	1.034
Snatched a purse/wallet	0.930
Cruel to an animal/bird	0.819

Note: \* denotes findings which are statistically at the 5% level.

- carrying a weapon at age 8½ in case of a fight were 1.7 times more likely to report anti-social or other problem behaviour at age 10½
- drinking alcohol without parental permission at age 8½ were 1.6 times more likely to report anti-social or other problem behaviour at age 10½.

Although these findings do not suggest a causal relationship between the behaviour highlighted and anti-social or other problem behaviour, they nevertheless demonstrate that there is a strong association between involvement in the different behaviour highlighted and the further involvement of anti-social behaviour at a later time point.

#### Differences in characteristics associated with children reporting involvement in anti-social or other problem behaviour at both time points

A MANOVA was used to examine any differences in the characteristics of those children who reported anti-social or other problem behaviour at both time points in comparison to all other children in the sample. It was found that those reporting involvement in anti-social or other problem behaviour at both time points had the following significant differences in comparison to the rest of the sample:

- greater conduct problems (behavioural problems)
- a higher level of family adversity
- lower levels of prosocial behaviour
- lower levels of performance IQ
- poorer friendship quality.

## Conclusions

In drawing on data from a longitudinal dataset, a number of findings have been presented which suggest a pattern emerging in the minority of young children who became involved in anti-social or other problem behaviour.

The findings have displayed some differences in the prevalence of the children's involvement in anti-social or other problem behaviour and associations between involvement in certain types of behaviour and continued involvement in anti-social or other problem behaviour. Although this research is not suggestive of causal links between behaviour types and continued involvement in anti-social or other problem behaviour, it does highlight strong associations which are worth further investigation.

These findings also identified:

- differences in the characteristics between those children who reported no involvement in anti-social or other problem behaviour compared with the rest of the sample;
- differences between those children who reported involvement in such behaviour at both time points compared with the rest of the sample.

In providing evidence of individual and family characteristics that may be associated with such behaviour during childhood, the study suggests that early interventions that target both family factors and individual factors associated with cognitive and behavioural development are important.

## Future research

Although several characteristics have distinguished the sample based on their levels of self-reported involvement in anti-social or other problem behaviour, the study only looked into a limited number of variables which relate to individual child-based and family characteristics. Future research would benefit from including a more diverse array of potential predictors in order to determine which are the most important factors that predict continued involvement in anti-social and other problem behaviour across different areas.

The present study found that those who reported no involvement in anti-social or other problem behaviour had, on average, lower levels of family adversity; and those who reported involvement in such behaviour at both assessment time points had, on average, higher levels of family adversity. This is an important finding which would benefit from further research in order to identify the individual elements of family adversity which are most strongly associated with involvement in anti-social behaviour.

Future research would benefit from drawing on the longitudinal element of ALSPAC to examine patterns of problem behaviour as the cohort gets older.



### Methodological note

#### The Family Adversity Index

The Child and Family Adversity Index was based on a series of measures describing various aspects of family functioning during the period of pregnancy including: young maternal age at first pregnancy/child birth; housing; basic living conditions; no educational qualifications; financial difficulties; partner relationship status; family size; major care-giving problems; social network; maternal affective disorder; substance abuse; involvement in crime. Each individual item is assigned a value of 1 if an adversity is present and 0 if it is not present. (For further details on the construction of this index, see Bowen et al., 2005.)

#### Statistical significance

Tests of statistical significance are those which are used to identify which changes are unlikely to have arisen by chance. Statistical significance at the 5% level as referred to in this Findings is the level at which there is a one in 20 chance of incorrectly identifying a difference solely due to chance.

#### Statistical tests

A MANOVA is used for assessing the group differences across the multiple dependent variables simultaneously. In relation to the analysis referred to in this Findings, the dependent variables are the social and psychological characteristics assessed.

Relative Risk Ratios show the probability of an occurrence compared to the whole group. In relation to the analysis referred to in this Findings, the relative risk ratios show the likelihood of children reporting anti-social behaviour at age 10½ based on their reported involvement in a particular behaviour at age 8½ and compared to all children who did not report involvement in that behaviour.

#### Representativeness of the study sample

The sample for this study was drawn from the Avon Longitudinal Study of Parents and Children (ALSPAC). The families in the overall ALSPAC sample are broadly characteristic of families in Britain as a whole. However, the families of the children who formed the sample for the current study were not representative of the overall ALSPAC cohort. The mothers of children in this study sample are overall better educated, more likely to own their own house, and were older at the time of their first child. In addition, the children in the study sample were less likely to come from a minority ethnic group. For further information on the representativeness of the ALSPAC cohort, see:

[http://www.alspac.bris.ac.uk/protocol/rep\\_nature\\_of\\_sample.shtml](http://www.alspac.bris.ac.uk/protocol/rep_nature_of_sample.shtml)

#### Definitions of anti-social behaviour

A typology of anti-social behaviour has been developed by the Research, Development and Statistics Directorate of the Home Office which is based on a range of definitions that are in use (see Harradine et al., 2004).

### References

- Benda, B.B., Corwyn, R.F. and Toombs, N.J. (2001). Recidivism among adolescent serious offenders: Prediction of entry into correctional system for adults. *Criminal Justice and Behavior*, 28 (5), 588–613.
- Bowen, E., Heron, J., Waylen, A., Wolke, D. and the ALSPAC study team. (2005). Risk for domestic violence during and after pregnancy: Findings from a British longitudinal study. *British Journal of Obstetrics and Gynaecology*, 112 (8), 1083–1089.
- Elliott, D. S., Huizinga, D. and Morse, B. (1986). Self-reported violent offending: A descriptive analysis of juvenile violent offenders and their offending careers. *Journal of Interpersonal Violence*, 1, 472–514.
- Farrington, D. (1998). Predictors, causes and correlates of male youth violence. In M. Tonry and N. Morris. (Eds). *Crime and justice: A review of research (vol.7, pp. 421–475)*. Chicago: University of Chicago Press.
- Harradine, S., Kodz, J., Lemetti, F. and Jones, B. (2004). *Defining and measuring anti-social behaviour*. Home Office Development and Practice Report 26. London: Home Office.
- Loeber, R. and T. Dishion. (1983). Early Predictors of Male Delinquency: A Review. *Psychological Bulletin* 94(1):68–99.
- Moffitt, T.E., Caspi, A., Dickson, N., Silva, P. and Stanton, W. (1996). Childhood-onset versus adolescent-onset anti-social conduct problems in males: Natural history from ages 3 to 18. *Development and Psychopathology*, 9, 399–424.
- Patterson, G. R., Forgatch, M. S., Yoerger, K. L. and Stoolmiller, M. (1998). Variables that initiate and maintain an early-onset trajectory for juvenile offending. *Development and Psychopathology*, 10, 531–547.

For a more detailed report of the evaluation see *Anti-social and other problem behaviour among young children: findings from the Avon Longitudinal Study of Parents and Children* by E. Bowen, J. Heron and the ALSPAC study team (2006). Home Office Online Report No. 02/08. London: Home Office. Copies are available on the Home Office RDS website <http://rds.homeoffice.gov.uk/rds/>

Dr Erica Bowen is a lecturer in Psychology at Coventry University; May El Komy is a senior research officer at the Home Office Research, Development and Statistics Directorate and Dr Jon Heron is a statistician working at ALSPAC at the University of Bristol.