



Adolescents & Alcohol: Problems related to Drinking

IAS Factsheet

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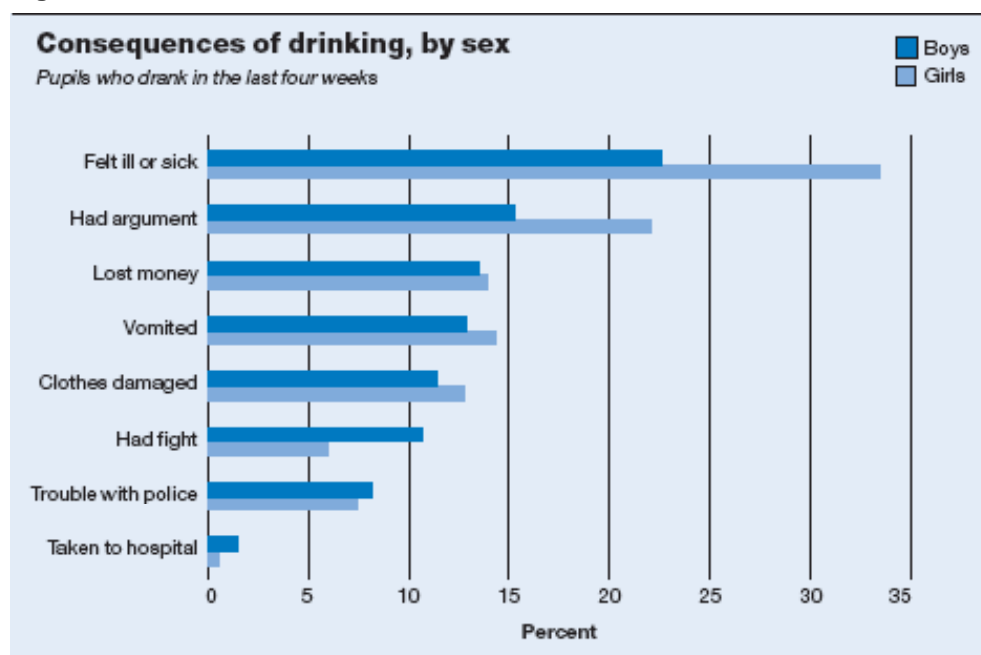
A survey of 15-16 year olds¹ found that UK teenagers came at or near the top of the international league for binge drinking, drunkenness and experience of alcohol problems. A quarter of those asked reported drinking five or more drinks in a row three times or more in the previous month; 68% reported having been drunk at least once in the last year, relative to an average of 53% across all countries surveyed.

More recent figures from the National Centre for Social Research (NCSR)² in the UK (survey conducted in England) tell a similar story. Of 15 year olds, 37% of boys and 47% of girls reported having been drunk at least once in the last month. These figures represent the majority (63% of boys and 71% of girls) of those who had drunk any alcohol at all during the last month.

The range of problems caused by the immediate effects of alcohol

The NCSR survey asked all 11-15 year olds who had drunk in the last four weeks whether anything had happened to them when they had been drinking. As can be seen in figure 1, pupils were most likely to have felt ill or sick; this was more common among girls (33%) than boys (23%). Girls were also more likely than boys to have had an argument (22% compared with 15%). However, more boys than girls reported getting into a fight (11% of boys, compared with 6% of girls). Similar proportions of boys and girls reported losing money or other items (14% of boys and girls); vomiting after drinking alcohol (13% of boys, 14% of girls); damaging clothes (11% of boys, 13% of girls) and getting in trouble with the police (8% of boys, 7% of girls). A small proportion of pupils (1%) reported being taken to hospital after drinking in the last four weeks. The pattern of these experiences was generally similar across age groups, though the numbers were smaller for younger age groups.²

Figure 1.



A Europe-wide survey of 15-16 year olds¹ asked about a similar, slightly longer list of problems following alcohol consumption.

UK students reported higher rates of most problems than the average across all countries. In particular, UK students reported approximately twice the rates of damage to objects or clothing, loss of money or other valuables, accident or injury, trouble with the police and having sex that was either regretted the next day or unprotected. Students were also asked whether they had experienced these problems due to other factors than alcohol. In most cases, the number of problems that the respondents specifically related to their own alcohol use was small in comparison with such problems caused by other factors. The exceptions were regretted or unprotected sex and trouble with the police, for which around a third to a half of cases were due to alcohol (based on Europe-wide data; figures not given for each country).

Adverse consequences of drinking alcohol for children and young people³

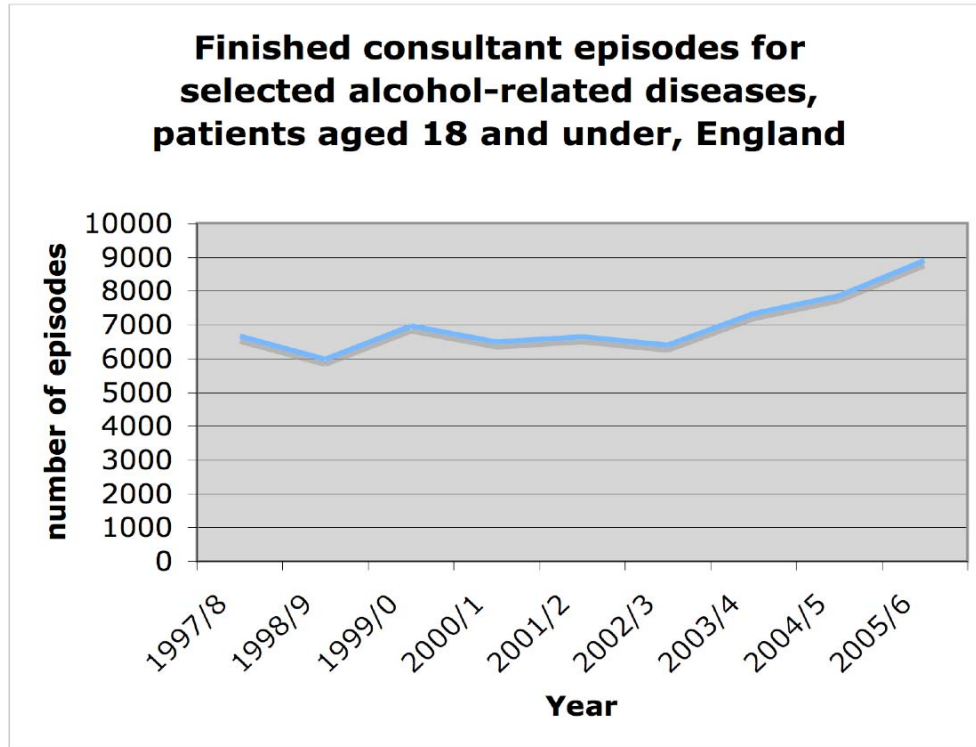
The potentially adverse consequences for children and young people who misuse alcohol include:

- adolescents who misuse alcohol are more likely to suffer from side effects including appetite changes, weight loss, eczema, headaches and sleep disturbance
- the most common impacts of alcohol intoxication are vomiting and coma
- young people are not immune to the chronic diseases and conditions associated with excess alcohol consumption in adults, and deaths from liver disease are now occurring at younger ages
- adolescents and young people who drink and drive, or allow themselves to be carried by a drink driver, are more likely to be involved in a car accident
- adolescents and young people who drink alcohol are more likely to sustain an injury, often as a result of an assault
- alcohol abuse in adolescence, during a developmentally sensitive period, poses a particular danger to the emerging brain faculties of executive functioning and long term memory
- adolescents are likely to be more vulnerable than adults to both subtle brain damage and long lasting cognitive deficits following alcohol exposure
- alcohol may increase feelings of depression
- stress/anxiety based drinking is associated with long-term and more severe negative outcomes
- there is a relationship between adolescent alcohol use and mental health problems
- alcohol consumption during an evening may affect a child's performance at school on the following day, since it takes time to metabolise alcohol and this process varies depending on the dose of alcohol that was consumed and differing metabolic capacity
- there are associations between alcohol consumption and subsequent behaviour with peers and friends. Excessive alcohol use can be detrimental to a young person being able to maintain friendships, particularly if the consumption levels are higher than among the peer group generally.
- alcohol consumption can have a detrimental effect on young people's short term educational performance
- alcohol consumption by young people, particularly students, is more likely to make them vulnerable to being the victims of crime
- alcohol may make some young people more likely to display aggressive behaviour, although it is likely that other factors such as their personality and family life will play a role
- alcohol consumption is associated with: not using a condom during a young person's first sexual encounter; an increased likelihood of having sex and at a younger age; unprotected sex; teenage pregnancy and the likelihood of contracting sexually transmitted diseases.

Hospital admissions

Although only small proportion of those surveyed had been admitted to hospital, relative to other problems experienced, the number of admissions has been increasing, particularly since 2002. In 1997/98, there were 6,667 admissions of under 18s to NHS hospitals in England for alcohol-related diagnoses. In 2005/6 this had increased to 8,894, as shown in figure 2.⁴

Figure 2.



Notes:

1. Diagnosis codes: F10 mental and behavioural disorders due to use of alcohol; K70 alcoholic liver disease; T51 Toxic effect of alcohol.
2. Data are provided from 1997-98 to 2005-06 for under-18s with an alcohol-related diagnosis in either the primary diagnosis field or one of the secondary diagnosis fields.
3. Finished admission episodes: A finished admission episode is the first period of in-patient care under one consultant within one healthcare provider. Please note that admissions do not represent the number of in-patients, as a person may have more than one admission within the year.

Individuals aged 11 – 18 treated for alcohol-related health problems, 2002 – 2007, by Government Office region

Govt office region	2002-3	2003-4	2004-5	2005-6	2006-7
North East	1211	1161	1357	1553	1608
North West	2746	3054	3436	3996	4138
Yorkshire & the Humber	1766	1912	1975	2102	2136
East Midlands	1163	1253	1331	1436	1490
West Midlands	1613	1658	1825	2243	2288
East	1182	1328	1329	1377	1449
London	1171	1358	1445	1749	1769
South East	1938	2192	2492	2711	2610
South West	1357	1614	1827	2082	2113
Unknown/no fixed abode	148	156	192	273	261
England	14296	15787	17211	19523	19864

Source: Hospital Episode Statistics (HES), the NHS Information Centre for health and social care

Facial scarring

Up to 1,000 young people a week suffer serious facial injuries as a result of drunken assaults. 18,000 young people are scarred for life each year.⁵

Traffic Accidents

Young drivers are more affected by alcohol than older drivers because they are inexperienced drivers as well as having a lower tolerance of alcohol. Statistics on single vehicle crashes give the clearest indication of the effects of alcohol on a driver, since these are relatively independent of other factors. The results of an American study (table 1), clearly show how alcohol increases the risk of a fatal single vehicle crash for younger drivers to a much greater extent than older drivers. For blood alcohol concentrations between 0.5g/l and 0.79g/l (below the legal limit in the UK), male drivers aged 21 or older had approximately six times the risk, whereas male drivers under the age of 21 had seventeen times the risk, relative to a zero blood alcohol concentration.⁶

Table 1. Relative risk of fatal single vehicle crash for males at various BACs

Age	BAC (%)			
	0.020–0.049	0.050–0.079	0.080–0.099	0.100–0.149
16–20	4.64	17.32	51.87	240.89
21–34	2.75	6.53	13.43	36.89
≥35	2.57	5.79	11.38	29.30

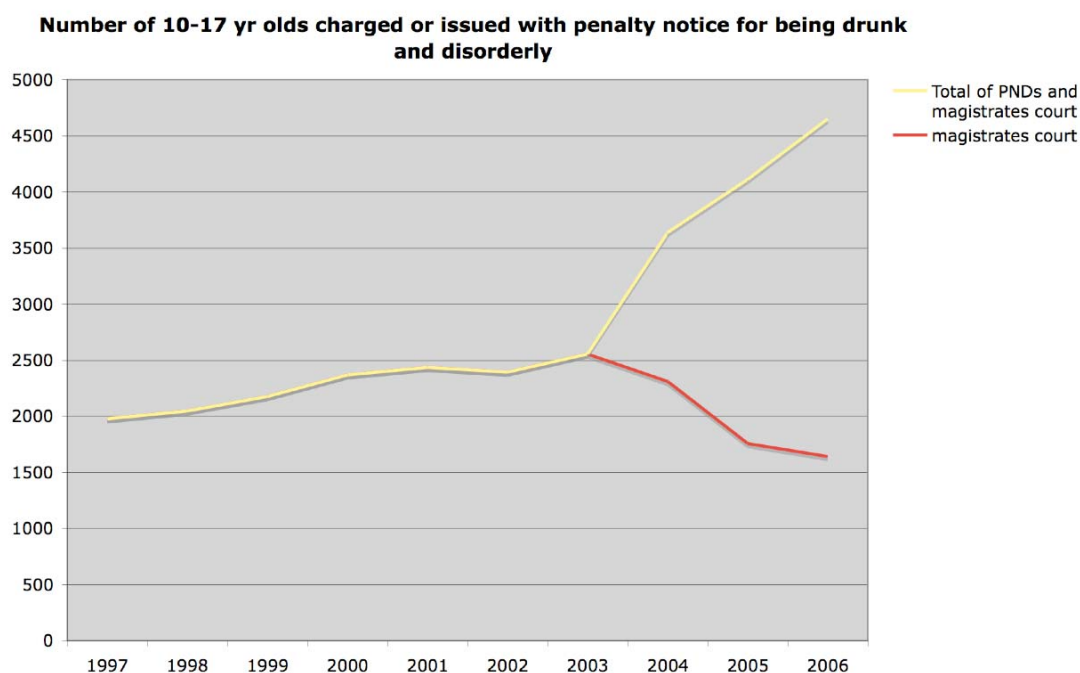
Note: The study used a baseline relative risk of 1.00 for drivers with 0.00% BACs of the same age and sex as the respective study groups. That is, 16-20 year old males were compared with 16-20 year old males with 0.00% BAC, whose relative risk was taken to be 1.00

Offending

Alcohol is closely linked to offending and anti-social behaviour in young people, as it is in older people, but young people have much higher levels of offending.

Around a quarter of 14-17 year old males, 13% of females of that age, are serious or prolific offenders. Overall, males aged between 10 and 25 account for almost half (47%) of a range of offences including burglary, theft, criminal damage, robbery, assault and selling illegal drugs.⁷ An answer to a recent parliamentary question gave the number of defendants aged 10 to 17 proceeded against at magistrates courts for being drunk and disorderly, and since 2004, the number of penalty notices for disorder (PNDs) issued to offenders aged 16 and 17 for being drunk and disorderly in England and Wales between 1997 and 2006 (Figure 3).⁸

Figure 3.



Note: 'Magistrates court' is the number of defendants aged 10 to 17 proceeded against at magistrates courts for being drunk and disorderly, and 'PND' is number of penalty notices for disorder (PNDs) issued to offenders aged 16 and 17 for being drunk and disorderly. England and Wales.

Drinking, feeling drunk and regular visits to pubs and bars are among the risk factors for both offending and anti-social behaviour. Much evidence exists to show that frequent underage drinkers commit a disproportionate amount of crime. A Home Office report found that of 10 to 17 year olds, those who drank alcohol once a week or more committed 37% of all offences

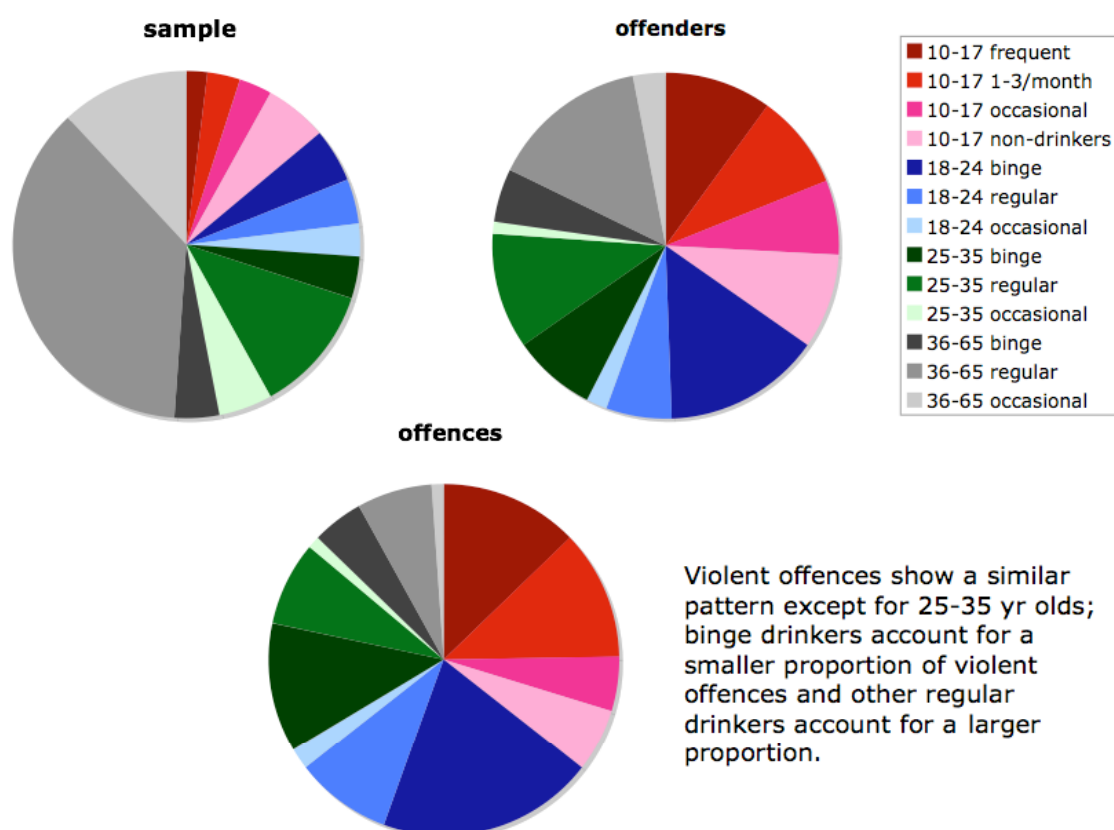
reported by that age group, despite comprising only 14% of the respondents. In contrast, those who had never drunk alcohol or had not drunk in the last year, committed 16% of the offences but comprised 45% of respondents.⁹

Comparing 10 to 17 year olds with other age groups (table 2 and figure 3), it can be seen that the two younger age groups, i.e. those under 25, are all more likely to offend than the older age groups (the percentage of offenders accounted for by these groups is greater than the percentage of the sample). Also, the association between drinking and offending is particularly strong for these younger age groups. It is not possible to know the direction of causality from an association such as this; we cannot tell whether drinking leads to offending or offenders are more likely to drink.

Table 2. Proportion of offences, offenders and sample (aged 10-65) accounted for by age group and drinking behaviour

Age	Drinking behaviour	% of offences	% of offenders	% of sample
10-17	once a week or more	13	10	2
	1-3 times a month	12	9	3
	less often	5	7	3
	not in last year	6	9	6
18-24	binge drinkers	20	15	5
	other regular drinkers	9	6	4
	occasional/non drinkers	2	2	3
25-35	binge drinkers	12	8	4
	other regular drinkers	8	11	12
	occasional/non drinkers	1	1	5
36-65	binge drinkers	5	5	4
	other regular drinkers	7	15	37
	occasional/non drinkers	1	3	12

Figure 3. Proportion of offences, offenders and sample (aged 10-65) accounted for by age group and drinking behaviour



Notes to table 2 and figure 3, which present the same data in different formats:

1. Adapted from table 3 of Home Office Findings 277⁹ and table 2 of Home Office Findings 261¹⁰. Data were scaled using figures from table 3.3 of Home Office Research Study 275.¹¹

2. Different drinking measures were used for the underage drinkers and for the adults. For 10-17 year-olds, frequency of drinking any alcohol was used, whereas for the other age groups, drinking behaviour was categorized as 'binge drinking' (felt very drunk at least once a month over the last year), 'other regular drinkers' (drank at least once a month, but felt very drunk less frequently or not at all) and 'occasional/non-drinkers' (drank less than once a month or not at all).

3. The distribution of ages in the sample is not representative of the population, so it cannot be concluded, for example, that 10-17 year-old frequent drinkers commit 13% of all offences, or that they make up 2% of the population.

After controlling for other factors, including anti-social behaviour and being a victim of crime, 10 to 15 year olds who had been drunk once a month or more over the last year were approximately 80% more likely to have offended than those with lower levels of drunkenness (odds ratio of 2.3; relative risk unavailable). For 16 to 25 year olds, regular drunkenness had a smaller, but still significant effect, making offending approximately 30% more likely (odds ratio of 1.4).¹²

Although many offenders have been drinking at the time of the offence, "Because I was drunk" does not come high up the list of reasons given by young people when asked why they offended. Of 10 to 25 year olds who had committed a violent offence, 21% said they had been drinking at the time, but only 9% cited being drunk as a motivation, relative to 49% who said they committed the crime because they were annoyed or upset by someone (table 3). For vehicle-related thefts, 34% said they had been drinking at the time, mostly in combination with other drugs, and 19% cited being drunk as a motivation, relative to 46% who said they did it for fun or for the buzz. Of those who committed criminal damage, 37% had been drinking and 22% said that drunkenness had been a motivation, relative to 41% who said they did it because they were bored. Of other thefts, including burglary, 7% had been drinking at the time and only 2% cited drunkenness as a cause, relative to 50% who said that they either wanted or needed what they stole.¹² Estimates of the involvement of alcohol in crime are somewhat higher when the victim, rather than the offender, makes the judgement. Victims of violent crime believed their assailant to be under the influence of alcohol in 46% of cases (this was not analysed by age of offender).¹³

Table 3. Proportion of offenders aged 10-25, who had drunk alcohol at the time of the offence, who cited drunkenness as a motivation for offending, and who cited other motivations

Type of offence	% had drunk at time of offence	% citing drunkenness as motivation	% citing most common motivation
Violent	21	9	41, annoyed/upset by someone
Vehicle-related theft	34	19	46, for fun/buzz
Criminal damage	37	22	41, bored
Other theft	7	2	50, wanted/needed what they stole

Victimization

When examined on its own, alcohol use in 10-25 year olds, and specifically being drunk more than once a month, is related to the likelihood that they will be the victim of crime. However, when other factors are taken into account, including the victim's own offending behaviour, frequency of drunkenness is no longer a significant factor. For the 16 to 25 year olds, those who visited a pub more than once a month (relative to less often) were approximately 20% more likely to be the victims of crime (odds ratio of 1.3), even after other factors were accounted for.¹²

Alcohol and School

In 2004/05, 146 out of every 100,000 secondary school pupils in England were temporarily excluded from school for alcohol or drug-related reasons, and 6 per 100,000 were permanently excluded.¹⁴

Alcohol is associated with truancy. Among 14-16 year olds in London more than two thirds of 'frequent excessive' drinkers reported having repeatedly truanted from school (Best et al. 2006)¹⁵

Brain damage

Alcohol affects the whole brain, but particularly the frontal lobes, which are responsible for 'higher level' thinking such as planning, decision making and judging the likely consequences of actions.¹⁶ This area of the brain continues to develop throughout adolescence,¹⁷ which has led some to suggest that adolescent brains are more sensitive to alcohol than adult brains.¹⁸

Another area of the brain affected by alcohol is the hippocampus. This area is crucial for learning; people with severe damage to the hippocampus are unable to retain any information (such as remembering what they said) for more than about five minutes, though they can still retrieve old memories. Animal research, mostly with rats, suggests that adolescents may be more vulnerable to memory impairments caused by alcohol.¹⁹

Studies of human adolescents with alcohol-use disorders (either dependence or alcohol abuse) have found that even after several weeks of abstinence, these youths did worse on a memory task than other youths, who were selected to be similar in other respects. When followed up four and eight years later, those with alcohol-use disorders still performed worse on tasks involving memory and attention.²⁰

Brain imaging (MRI) studies of adolescents with alcohol use disorders show that they have a smaller prefrontal cortex (part of the frontal lobes) and hippocampus than other people of the same age.^{21,22} However, a similar study was conducted of young people (aged 9-23 years old) at high risk of alcohol dependence, defined as those who had an alcoholic father and at least one other family member with alcohol problems.²³ These young people had never drunk any alcohol themselves. Results of this study also found smaller hippocampi and nearby brain regions for high risk young people relative to those at low risk (with no family history of alcohol

dependence). There was some indication of smaller prefrontal cortex as well, possibly only at younger ages, but the sample was too small to be sure of this.

The finding that similar brain abnormalities are found in young people with alcohol use disorders and those who have never drunk alcohol but have a family history of alcohol dependence suggests that the brain abnormalities may increase the risk of alcohol problems, rather than the brain being damaged by alcohol. Research into the effects of alcohol on the brain, and especially the question of whether adolescent brains are affected differently from adult brains, is in its infancy. Nobody yet knows the answers to these questions.

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11 March 2009

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