

Violence and public health

Anthony Golding FFPHM

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Violence is one of the most important public health issues today—because of the effect on victims; because of the fear created in the community at large; because of the enormous cost to society; and because much can and should be done to prevent it.

There is now a wide consensus that law enforcement cannot by itself provide an answer. Solutions are needed from other disciplines, including public health. Preventing violence demands not only a long-term commitment but also a comprehensive set of strategies and partnerships that are not focused solely on aggressive responses¹. Many examples of increasing violence could be given, from crime statistics², as in Table 1, to the need to provide training for doctors (among others) on the avoidance and management of potentially aggressive situations³. The cost is huge. In 1985 in the USA there were 20.8 violent deaths and 110.4 hospital admissions for violence per 100 000 population, with an estimated total cost for the whole country of US\$ 8.26 billion⁴.

Reducing violence is a practicable aim which we should be trying to achieve.

RAGE

Violence is common to all higher animals because it is necessary for survival in a competitive world. The basic component is rage, which can be evoked experimentally by stimulating the posterolateral part of the hypothalamus⁵. In cats this causes hissing, spitting, growling, piloerection, pupillary dilatation and well-directed biting and clawing. The heart rate, blood pressure, respirations and salivation increase as do the plasma adrenaline and fatty acids⁶. There may be a diminution of sensory perception so that men who are fighting can sustain quite severe injuries without being aware of them⁷.

These effects are normally modified by impulses from the neocortex but the balance can be upset by various interventions. Thus, attacks of rage in response to trivial stimuli have been observed many times in patients with brain damage⁸: they are a complication of pituitary surgery where there is inadvertent damage to the base of the brain and follow diseases of the nervous system, especially encephal-

Table 1 Notifiable offences recorded by police: England & Wales (figures in thousands) [Source: *Annual Abstract of Statistics 1996*. London: CSO, 1996]

Offence	1984	1989	1994
Theft & handling stolen goods	1808.0	2012.8	2560.7
Burglary	892.9	825.9	1261.4
Criminal damage	497.8	630.1	930.4
Violence against the person	114.2	177.0	219.7
Fraud & forgery	126.1	134.5	146.2
Sexual offences	20.2	29.7	32.0
Other offences	39.9	60.7	107.7
Total	3499.1	3870.7	5258.1

litis, which destroy neurons in the limbic system and hypothalamus.

The rage response is enhanced by androgens and in males is reduced by castration. Drugs can also have a direct effect.

The effect of androgens is seen in male adolescence when there is a surge in testosterone and an increase in aggression. Testosterone levels of adolescent boys are significantly correlated with self-reports of physical and verbal aggression, intolerance of frustration and irritability⁹ (pp 468-9).

Aggression and rage are a necessary part of our biological inheritance with which we have learnt to coexist and which has served and continues to serve to maintain us⁷.

Throughout the animal kingdom, violence and the threat of violence are used by the male to enlarge territory, to attract females for breeding and to ensure the survival of their own progeny, if necessary at the expense of others. In man, examples of the urge to enlarge territory are seen in the wars between rival drug barons in our own cities, and in Hitler's *Lebensraum* with his demand for more living space for the German people—the main cause for the Second World War. The need to appear strong is seen in military parades and in much of the machismo culture. An interesting example of the instinct to protect one's own progeny preferentially is seen also in man as Jane Watkeys showed in her case control study of child abuse in Camberwell. Only 48% of abused children were living with their natural father compared with 71% of controls. In other words, living with the natural father reduces the risk to the child.

Aggression in children

Even in infancy the aggressive drive is important. When they are hungry, infants howl with intense anger and this type of response is important for their survival until they are able to fend for themselves and thus in time become capable of protecting and supporting their own offspring⁷. If the small child is to feel safe both from external danger and from his own aggressive feelings, he needs to be convinced that his parents or whoever is looking after him are able to cope both with the world outside and with his inner needs. In other words, parents should respond to the child's needs in a way that allows that child to have confidence in them. If the parents are too liberal and the child is not set reasonable boundaries limiting what he may do then he will feel insecure; and similarly too strict a regimen may prevent his own feelings from developing properly.

Children who are to face life independently and successfully need all the aggressive potential they can muster and it is not surprising that some of the most popular fairy tales¹¹ are about the management of violence. They have helped generations of children to understand violent emotions in a way that is least threatening. Because they have been translated into many languages, over the years different versions of the one story have emerged. *The Three Little Pigs* is a good example¹². It starts safely, 'There was once upon a time...'. It goes on to describe three little pigs (representing three aspects of the child)—the greedy little pig, the little pig that only wanted to play and the sensible little pig. All are afraid of the fox (in some versions the big bad wolf), and when the fox comes it is only the sensible little pig that can save himself and the other little pigs and also kill the enemy. As in all good fairy tales the happy ending is important. It teaches the child that there are dangers in the world around him and he needs to think how to manage them; yet the level of anxiety is reduced by the unreality of the little pigs while the deeper meaning can (and must) be worked out by the child himself. Even the smallest of us can outwit the enemy but only if we are sensible.

Bible stories such as Cain killing Abel and Greek myths such as Medea killing her own children¹³ retain our interest and are important at least partly because of our need to consider the effects of violence in the safe and unthreatening context of 'once upon a time' and hence build up a conceptual framework for the horrors of contemporary violence.

One feature of man's evolution is the development of a complex psychological mechanism which ensures that higher socio-economic position (whether measured by social class, occupational class, income, wealth or educational attainment) is reliably associated with greater life expectancy¹⁴. While the advantages of this kind of social living for those of higher social status are obvious, how do they elicit the

cooperation of individuals of lower social status? The instincts which tend to lead to a dominance hierarchy need to be balanced by counterdominant instincts which will work to promote more equal sharing. If low-status individuals perceive their status as unfair then they may adopt sanctions. They may withdraw cooperation, mobilize adverse public opinion or employ violence. It is therefore not surprising that violence occurs where there is a substantial class of individuals who see no likelihood of improving their lot without being violent. This can be seen in certain communities, for example in the USA¹⁵ where violence has reached epidemic proportions¹⁶ and the need is for community-based programmes that will initiate changes in the social environment and create opportunities for adequate housing, job training, employment or academic achievement.

The infant

Over 40 years ago Bowlby, reporting a study of 102 persistent offenders aged 15–18, concluded that anxieties arising from unsatisfactory relationships in early childhood had predisposed the children to respond in an antisocial way to later stresses¹⁷. More recent work has expanded on this theme and suggests that the way children defend themselves against abuse, whether physical or sexual, is by developing and maintaining violent behaviour^{18,19}. The importance of good parenting has been reviewed recently by Rivara and Farrington²⁰ and this work highlights the usefulness of home visiting in families where a young child is thought to be at high risk. Good parenting not only reduces the likelihood of violence in the child but is much more positive in helping the child to benefit from a normal education and develop good interpersonal relationships with his or her peers. Aggression is instigated by deprivation, punishment, barriers to achieving goals, feelings of inadequacy or anxiety or threats to self-esteem⁹ (p 471). Good parenting should be a priority for teaching at school, in the antenatal period and following childbirth.

Early schooling

Most disruptive children can be identified the day they enter school and they need special help if they are not to remain disruptive throughout their lives²¹. Several successful interventions have been described. For school children one of the best ways seems to be the 'good behaviour game' (GBG) where each form is divided into two or three groups which play the GBG^{22,23}, initially for 10 min a week but subsequently for longer periods. Each group is given points for bad behaviour and the teams that do well (with least points) receive a reward. The emphasis is on recognizing the importance of peer pressure and rewarding teams that function well.

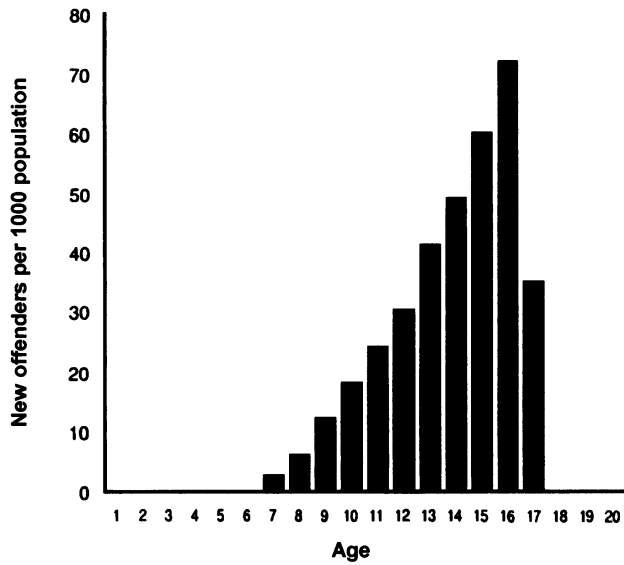


Figure 1 The rate of new male offenders at each age per 1000 male population. Onset of offending was defined as the age at which a child was first taken into custody and designated delinquent by the police. Rates are based on a cohort of 9945 boys born in 1945 in Philadelphia, Pennsylvania [From Wolfgang ME, Figlio RM, Sellin T. *Delinquency In a Birth Cohort*. Chicago: The University of Chicago Press, 1972: 132. Copyright 1972 by The University of Chicago. Adapted by permission]

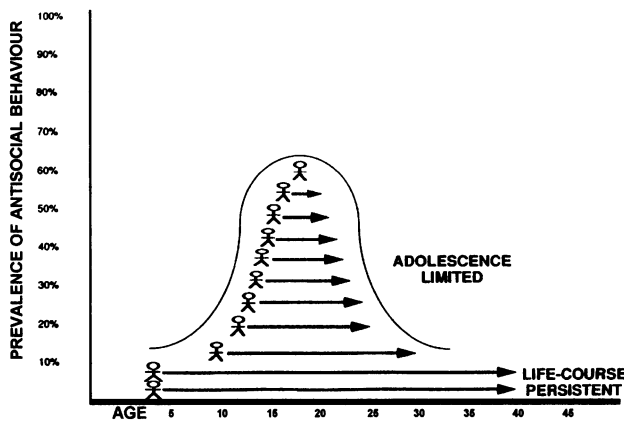


Figure 2 Hypothetical illustration of the changing prevalence of participation in antisocial behaviour across the life course. (The solid line represents the known curve of crime over age. The arrows represent the duration of participation in antisocial behaviour by individuals)

Violence prevention education can also be effective in the clinical setting²⁴.

Adolescence

Figures 1 and 2^{25,26} show that the prevalence of antisocial behaviour peaks at around 16/17 years of age and consists of two very different groups. One, amounting to 5% of all males, were persistent offenders throughout their life while the great majority offended only during adolescence. This

pattern emerges from several surveys including one on 1037 children born in New Zealand in 1972–1973 who were reviewed every 2 years from ages 3 to 15²⁷.

The life-course-persistent group often have neuro-psychological problems which may start *in utero*, at birth or in childhood. Some of these may have a genetic component. These developmental abnormalities may then interact with homes where there are problems of discipline and academic failure so that the pattern is of a disadvantaged child going from bad to worse. To help that child will be progressively more difficult as the years go by.

By contrast the adolescence-limited group seem to be unduly influenced by the life-course-persistent group at a stage between puberty and their being accepted as adults. Their antisocial behaviour is more limited than in the other group and likely to concentrate on actions which seem to them to show that they are no longer children. They will give up this behaviour when it suits them to do so, for example on gaining employment or getting married (whereas in the first group the antisocial behaviour persists)²⁵.

What is violence?

Most antisocial behaviour does not involve violence against the person; none the less it may still constitute ‘the exercise of physical force so as to inflict injury or damage’²⁸. The 3-year-old who is disobedient is not necessarily violent. However, if the same child is also aggressive towards his or her parents and other children then the disobedience becomes a manifestation of violence since such a child becomes violent if thwarted.

Similarly, the common offences of the 10-year-old are shoplifting and playing truant. The latter cannot be called violent but we are here considering children whose inner turmoil can readily erupt into violence because they do not have the normal constraints of the more socialized child.

This undercurrent of violence is a particular feature of the life-course-persistent group who typically come to attention at 3 years of age when they are disobedient and aggressive; by 4 they start biting and hitting, by 10 they are shoplifting and playing truant, by 16 they are selling drugs and stealing cars, by 22 they have graduated to robbery and rape, and by 30 they are into fraud and child abuse. Risk factors are poor parenting, untreated conduct disorders, social stress, poverty and school failure^{29,30}.

They are different from the adolescence-limited group but they seem to be the core whose actions attract others in adolescence, which is the time when group activity is developing with the tendency to copy others of the same age.

For the adolescence-limited group violence is less apparent and typically more limited. If occasionally they

are involved in a violent gang activity, they are much less likely to continue with that gang than a child in the life-persistent group.

One example of the life-course-persistent offender³¹ is a man seen in his early 30s in prison for criminal homicide. At aged 9 he had a fight at school which he lost, coming home with his knees 'all skinned up' and trousers ripped. His grandfather was angry with him for losing and so taught him to box. The next day he lost another fight with the same boy so his grandfather whipped him and told him that he had better 'beat up that kid' the next day or he would whip him hard. The boy knew that the kid could not hurt him as much as his grandfather could, so next day he hit the kid as hard as he could, knocked him down and kicked him in the head and face, breaking his nose. As a result he became 'cock of the walk' at school. Aged 11 he hit an older child with a large stone, cutting his head which needed 10 stitches, at 12 broke a boy's arm when he refused to leave his yard, at 13 broke his opponent's nose which needed stitching, at 14 shot his stepfather dead. At 16 while on parole he attacked with a hammer four 'dudes' who were hassling him; three needed hospital attention, one with a fractured collar bone and two with fractured skulls. At 17 he used his rifle to frighten off a car-load of guys, damaging their car. Aged 18 he was attacked in a club, followed the man home and shot him dead through the window. There were no witnesses and he established an alibi. At 19 in a fight over a woman he hit a man with his hammer causing brain damage and was sent to prison.

While we do not know what happened before this man was nine years old it is clear that the incident when he was nine was learnt all too well. The grandfather's strategy for dealing with violence was over-simplistic and inappropriate. It is hardly surprising³² that one of the factors in families where children were less violent was greater attendance at religious education where strategies involving faith, hope, charity and love were likely to be discussed³³. Important risk factors for delinquency and violence are: poor parenting; untreated conduct disorders; social stress; poverty³⁴.

A good example of the adolescence-limited group was St Augustine who at the age of 16 'surrendered himself entirely to his lusts'³⁵. Perhaps his best known saying is that he prayed God to make him chaste, but not just yet. He also joined a gang which stole pears, not because they wanted the fruit but to enjoy the theft itself³⁵. He was afraid that innocence would be taken for cowardice and chastity for weakness. This was over 1600 years ago.

Rivara and Farrington²⁰ in their study of English males showed that there has been an increase in the percentage of the population found guilty of indictable offences. The peak in 1938 was about 1%, by 1961 4% and by 1983 over 9%. The peak also came later, from age 13 in 1938 to 17 in 1983. Important features of youth offences are the changes

Table 2 Homicide in selected countries, showing the total number of deaths from homicide in the year indicated and the rates per 100 000 population for males and females

Country	Year	Number	Males per 100 000	Females per 100 000
USA	1991	26 254	16.7	4.4
N Ireland	1992	75	8.3	1.2
Italy	1991	1 627	5.2	0.7
Finland	1993	166	4.7	2.0
Scotland	1992	140	4.7	0.9
Portugal	1993	149	2.1	1.0
Greece	1993	133	1.9	0.7
Switzerland	1993	111	1.9	1.3
Sweden	1992	117	1.8	1.0
Norway	1992	47	1.6	0.6
Denmark	1993	63	1.5	0.9
Germany	1993	966	1.4	1.0
France	1992	581	1.3	0.7
Spain	1991	346	1.3	0.5
England & Wales	1992	288	0.6	0.5

Source: World Health Statistics Annual 1994 Geneva: WHO

over time, with a steep decline in late adolescence. This peak is due to the adolescence-limited group and these are mainly boys who have a long gap between puberty (when they develop the instincts of manhood with the need to contribute to society) and the point at which anyone will offer them a job or some other recognition of adult status. This gap has been getting greater because of earlier puberty and fewer jobs for young adults. These problems would be eased by increasing employment opportunities for young adults and greater opportunities for the older child, especially those who are not benefiting from school and very often playing truant.

At present, England and Wales is less violent than many other countries (see Table 2) but there have already been riots in our inner cities. If we are not to live in an increasingly violent society we must devise strategies, now, that will make the country a better place for the next generation.

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