

Nipping criminality in the bud



In the first of our articles, **CAROLE SUTTON, DAVID UTTING** and **DAVID FARRINGTON** look at the evidence for the early origins of antisocial behaviour.

THERE is now a wealth of evidence, summarised in the illustration opposite, that the roots of offending, mental health difficulties and failure to reach cognitive potential are often evident from an early stage in children's lives. Thankfully, there are protective factors too, and we can highlight the case for more effective early prevention strategies. This evidence was described in more detail in a report, *Support from the Start*, published by the Department for Education and Skills (Sutton *et al.*, 2004; see tinyurl.com/fjzfp). We shall summarise some of the key features.

The illustration opposite provides a 'snapshot' of the current evidence concerning risk and protective factors at each major developmental stage through which children pass. We shall briefly consider each of these stages, highlighting areas of research that seem particularly important and identifying interventions and support services whose promise has been demonstrated through rigorous evaluation. The chart lists risk and protective factors up to the age of 13, but in this article we shall concentrate on evidence concerning children up to age eight.

The case for early action

First, however, we take a brief look at research concerning continuities and discontinuities in children's behaviour. Evidence on this was gathered for the

Home Office by another of the contributors to this special issue, Stephen Scott, and published in the British government's 2003 consultation paper *Every Child Matters* (Chief Secretary to the Treasury, 2003).

The results suggested that some 15 per cent of five-year-olds in the UK demonstrate behaviour that is oppositional and defiant. They are blamed by parents and disliked by siblings. Around 20 per cent of these children can be expected to move out of this high-risk category between the age of five and eight, while another 10 per cent join it (to fight, and experience peer rejection and low self-esteem). Further net reductions occur as the three-yearly pattern repeats itself during the junior and secondary school years, with those remaining 'at risk' following a path from poor school achievement to stealing, truanting, mixing with a deviant peer group and antisocial attitude. Thus, only about half the children whose behaviour is routinely troublesome at age eight are likely to be rated as 'anti-social' by age 17 – often a 'career offender', unemployed and using drugs. These data accord with the classic studies by Robins (e.g. 1978) which showed that, although antisocial adults had almost always been antisocial as children, most children assessed as antisocial did not go on to become antisocial adults. Nevertheless, early childhood problems among those who do go on to become chronic offenders suggest a strong case for early preventive action.

That case is supported by longitudinal studies that have explored the links between children's very early behaviour patterns and their subsequent offending. For example, the Dunedin study of children growing up in New Zealand has been used by Moffitt *et al.* (1996) to identify developmental pathways for two distinguishable groups of male offenders:

'life-course persistent' and 'adolescence-limited' offenders. Those who became chronic, serious or violent offenders tended to have histories of persistent, antisocial behaviour from an early age, unlike those who engaged in criminal behaviour for a relatively short time during adolescence. This chimes with studies suggesting that around five per cent of offenders may be responsible for a disproportionate 50 to 60 per cent share of total crime (e.g. Henry *et al.*, 1996). In an alternative interpretation of 'life-course persistent' behavioural problems, Patterson *et al.* (1998) in the United States have described a downward spiral of coercive interactions from children's early years stemming from the interaction between temperamentally difficult toddlers and inexperienced parents. But here again the case for very early intervention is emphasised. Such intervention can begin even in the womb.

Risk and prevention during pregnancy

Alongside economic and environmental factors (such as low income and poor housing) the most commonly acknowledged risk factor during pregnancy for children's subsequent development is low birth weight. This is, in turn, often associated with neurological impairment and cognitive difficulties. The contribution made by the impact of maternal stress upon the developing fetus is less widely recognised. Yet this emerges strongly from a series of studies by O'Connor *et al.* (2002) conducted as part of the Avon Longitudinal Study of Parents and Children, which gathered data from over 7000 women from pregnancy onwards. The results showed that babies born to mothers who experienced high anxiety at 32 weeks' gestation were twice as likely as those born to mothers who did not experience such

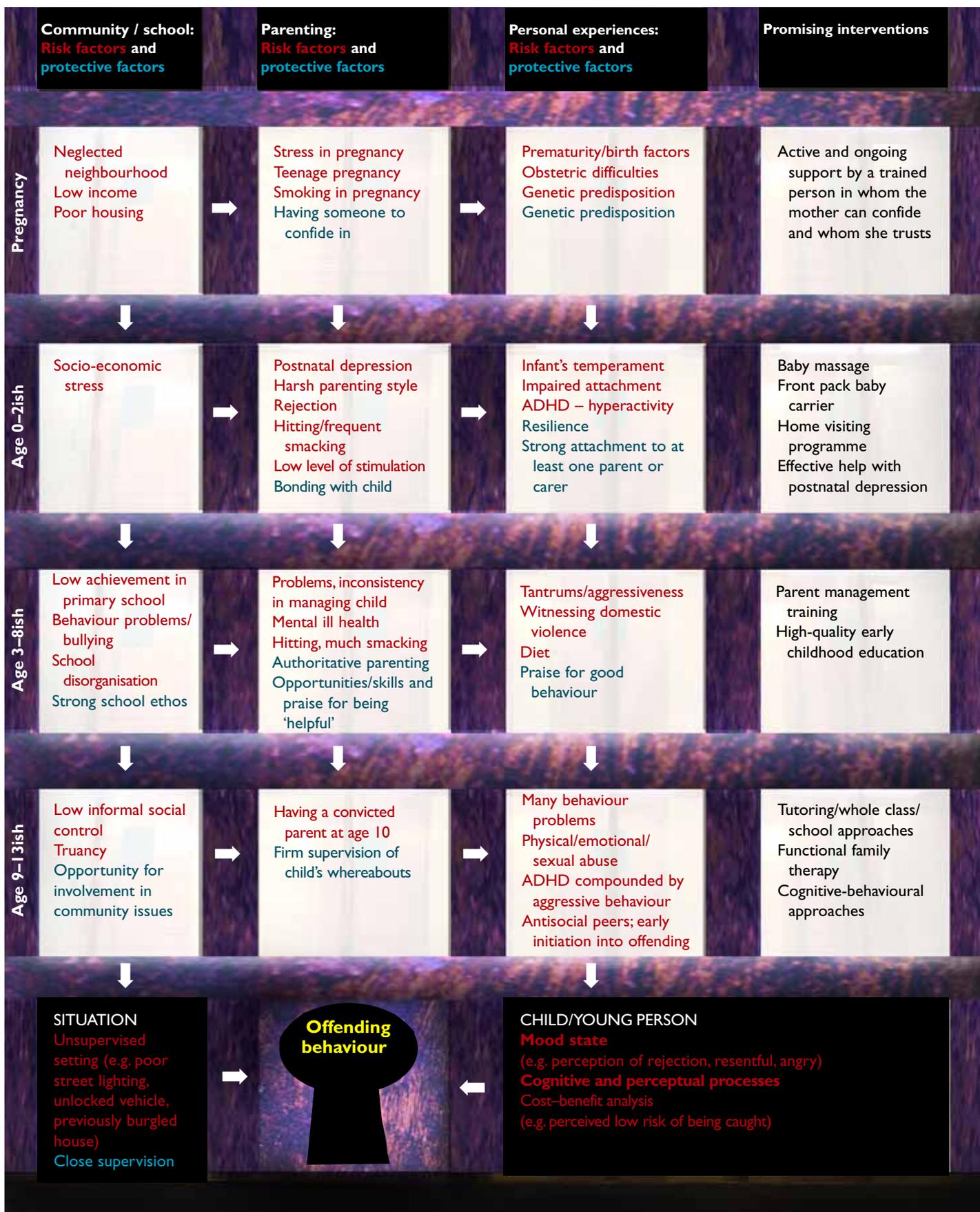
WEBLINKS

Policy Research Bureau: www.prb.org.uk

Nurse-Family Partnership: www.nursefamilypartnership.org

The Incredible Years: www.incredibleyears.com

Blueprints for Violence Prevention:
www.colorado.edu/cspv/blueprints



stress (10 per cent compared with 5 per cent) to have emotional or behavioural problems at the age of four. Even after controlling for other explanations, the analysis showed strong, statistically significant links between antenatal anxiety and children's behavioural problems.

There is also growing evidence of a link between a mothers' smoking during pregnancy – itself related to stress – and later behavioural problems. For example, Wakschlag *et al.* (1997) found that mothers-to-be who smoked more than six cigarettes a day were more likely to have a child who later developed a diagnosable behaviour problem than mothers who did not smoke at all during pregnancy. They concluded that maternal smoking during pregnancy was a robust, independent risk factor for later conduct disorders in boys. Moreover, a longitudinal study with the mothers of over 4000 boys (Brennan *et al.*, 1999), found a close relationship between differing amounts of smoking by mothers during pregnancy and their offspring's arrests in adulthood for both violent and non-violent crime. ADHD has also been linked with mothers' consumption of alcohol, use of drugs, and smoking during pregnancy (Mick *et al.*, 2002).

Evidence of genetic and biological components to certain risk and protective factors has also become clearer in recent years (Rutter *et al.*, 1998). There is no evidence of a 'gene for crime', but a body of evidence is growing which shows that genetic factors can contribute to the variance. For example, Caspi *et al.* (2002) examined records on more than 1000 children from the Dunedin longitudinal study, identifying those who had experienced maltreatment, such as punitive parenting in childhood. The researchers

were particularly interested in those children who did not go on to develop antisocial behaviour, despite their adverse experiences. They found that these children carried a genotype with a high level of a specific enzyme (MAO A), which may have made them more resilient in the face of harsh treatment. This suggests a specific, genetic component to previous observations that children who are temperamentally resilient, with a strong sense of self-efficacy, are buffered against the effects of multiple risk factors (see Werner and Smith, 1992, for more).

The most promising services for pregnant women, in terms of reducing the risks of later antisocial behaviour for their children, are those that offer high-quality social support alongside antenatal medical care. Prominent among these is the nurse-family partnership work of Olds and his colleagues (1998b, 2004) in the US. They worked with some 400 mothers-to-be in New York State, more than half of whom came from households of low socio-economic status. Participants were allocated to one of three different support regimes:

- fortnightly home visits of about an hour during pregnancy;
- fortnightly home visits both in pregnancy and during the first two years of life;
- a comparison group that had no visits and received standard care at clinics before and after their babies were born.

The visiting nurses helped mothers with health and general care, advising them about nutrition, avoiding substance abuse, child development and child-rearing. They encouraged the mothers' personal development, including family planning and education, and sought to involve other family members in the care of the child and mother. Follow-up data (Olds *et al.*, 1986) showed that amongst the mothers who were visited at home during pregnancy and in the first two years, there were fewer instances of child abuse in the first two years in comparison with the control group. Fifteen years later, Olds *et al.* (1998a) found that the children of the mothers who received additional support had fewer behavioural problems related to use of alcohol and other drugs and smoked less than children of mothers in the comparison group. These children also had less than half the rate of criminal convictions and breaches of probation. A replication of the

study with a mostly African-American sample in Tennessee (Olds *et al.*, 2004) also showed benefits for mothers and children visited by nurses frequently during pregnancy and the first two years of life. For example, by age six the visited children demonstrated higher intellectual functioning and had fewer serious behaviour problems (this distinction between the groups was substantial).

Birth to two years

Environmental factors have been shown to contribute substantially to children's behaviour patterns during the first two years of life. For example, a British study of 3530 same-sex twins, both identical and fraternal, compared the impact of environment across six different types of neighbourhood, from very disadvantaged to affluent. This showed that children in deprived neighbourhoods were at considerably increased risk of emotional and behavioural problems, over and above any genetic liability, and that the increased risk was discernible in children as young as two years (Caspi *et al.*, 2000). This underlines the scope for achieving improvements in children's lives through changes to their family circumstances and living conditions. But even where infants are exposed to multiple risk factors in disadvantaged, run-down neighbourhoods, research has established the protective effects of a warm and loving bond of attachment between mother and baby.

The importance of secure attachment for subsequent healthy development has been established by studies in many countries (e.g. Lyons-Ruth & Jacobowitz, 1999); and it has also been shown that secure attachment established in childhood can reduce the risk of later antisocial behaviour (Garnezy, 1993; McCord, 1982). When that secure attachment is threatened, it's bad news for the child's development. For example, Murray *et al.* (2003) have found that the babies of depressed mothers were more likely to have insecure attachments at 18-months-old and did significantly less well on cognitive tests. Later, it was found that boys whose mothers had been postnatally depressed showed a high level of behavioural disturbance at five years old.

In terms of parenting style, classic studies by Baumrind (1971) and Maccoby and Martin (1983) have highlighted two main dimensions: level of affection/acceptance and level of control.

DISCUSS AND DEBATE

How do we intervene positively in young children's lives, without stigmatising them and their families?

Where is the evidence base to justify early intervention?

How can we improve the way we measure the effectiveness of interventions?

What additional training might practitioners need to implement effective early intervention programmes?

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This yields four main parenting styles: authoritative (high control and affection), authoritarian (high control but low affection), indulgent/permissive (low control and high affection) and neglecting/uninvolved (low control and affection – perhaps unavailable because of stress or depression). The authoritarian style seems to lead to the poorest outcomes for children, particularly if it is associated with harshness and physical punishment.

Another key way in which parents can influence their children's lifecourse is via their cognitive and language development. This is one of the casualties of postnatal depression or high levels of stress affecting mothers (Murray *et al.*, 2003), but it is also a wider issue. Since it is not commonly understood that language and thought develop in response to 'talk, touch and gaze', many children do not receive the stimulation in these earliest years of life that would give their linguistic and language development the best possible boost.

For their study, Hart and Risley (1995) gathered data from 13 professional families, 23 working class families and six families receiving welfare benefits. They coded the interactions between parents and their children aged 10 to 36 months for an hour every month, examining the number of words used, the richness of vocabulary, and the types of feedback offered to children. Their findings were startling: for example, children in a professional family heard an average of around 11 million words a year, compared with six million in a working class family and three million in a family on welfare. The children in families on welfare were also severely disadvantaged with regard to the number of affirming, as opposed to discouraging, messages that they received from their parents: 26,000 encouragements per year and 57,000 discouragements, in comparison with 166,000 encouragements and 26,000 discouragements in the professional families.

Promising interventions Evaluation has identified a range of promising interventions capable of enhancing protective factors and reducing risk factors for children under the age of two. In relation to infants, some studies have demonstrated how baby massage can not only bring improvements in weight gain in comparison with a control group (e.g. Field, 2000), but also encourage interaction

between mothers with postnatal depression and their children (Onozawa *et al.*, 2001). This field requires further research.

In Britain and Ireland evaluations of intensive home visiting programmes by health visitors (Barker *et al.*, 1992) and trained, volunteer 'community mothers' (Johnson *et al.*, 2000) have yielded promising results. The Family Partnership Model, another home visiting approach, uses professionals trained in counselling and other techniques (see Davis & Spurr, 1998). It focuses on the psychosocial needs of families, rather than individual parents or children, under stress. Specialist training

Language and thought develop in response to talk, touch and gaze

is also available in the UK for health visitors in screening and counselling methods that have proved effective in treating postnatal depression (Cooper *et al.*, 2003; Elliott *et al.*, 2003).

Age three to eight

By the time children enter primary school, most will have been bathed in a sea of stimulating language by their parents and caregivers, and exposed to numerous stories and activities that nurture their creativity and self-esteem. They are ready for the learning that school can provide and can move confidently in their new environment. Less fortunate children who have not enjoyed these key experiences in their early years are likely to compare themselves unfavourably with their more articulate and sociable classmates. Those who have not learned self-control may resort to aggression and bullying to gain attention and control. This, in turn, makes it more likely that they will become isolated from other children and be gradually drawn into the reinforcing company of similarly antisocial peers.

By the age of three, children's severe behaviour problems are relatively stable and easy to identify. So, as teachers encounter them for the first time, their parents may already be at their wits' end to know how to manage their behaviour. The influence of environmental risk factors already described may be compounded by low achievement and antisocial behaviour in school. Risk factors such as parents' current or past involvement in offending may also become more salient as children become more aware of attitudes to the law and other 'social norms' within their families. Harsh parenting, physical punishment, lax supervision and inconsistent discipline can all play a part in developing and maintaining children's behaviour problems.

Individual children with conduct problems may also exhibit symptoms of ADHD. Current evidence suggests a modest genetic contribution to conduct problems and a substantial genetic contribution to ADHD (Rutter *et al.*, 1998). Early ADHD is not, on its own, a risk factor for later involvement in crime, but when accompanied by aggressive behaviour, the two together carry a substantial risk for later persistent offending (Moffitt, 1990).

Partly as a consequence of the relative stability of children's behaviour problems by age three, there are a considerable number of interventions that target the three to eight age group. Those who seek to reduce antisocial behaviour by promoting better parenting skills are prominent – especially among programmes which, following rigorous evaluation, have demonstrated effectiveness. It is also noticeable how some parenting programmes have sought to extend their effectiveness by diversifying into reinforcement programmes for teachers and children. Among the most rigorously evaluated parenting programmes in the US, Britain and Australia are Living with Children (Patterson, 1976), further endorsed by Parenting Positively (Sutton, 1992, 1995), The Incredible Years (Webster-Stratton, 2001) and Triple P – the Positive Parenting Programme (Sanders *et al.*, 2000).

These schemes have all demonstrated how teaching parents how to encourage positive social behaviour and deal effectively with antisocial behaviour can produce impressive improvements in children – which persist at 12 to 18 months

follow-up. Key components of these programmes include providing parents with a supportive and empathic relationship through a trained facilitator, helping them to manage their children authoritatively, providing children with opportunities and skills for being 'helpful', and encouraging parents to use praise and positive feedback (Moran *et al.*, 2004).

Approaches that work by involving schools as well include I Can Problem Solve (see Shure, 1993, which focuses on interpersonal and cognitive skills and has demonstrated a persisting effect from preschool to junior school. The Seattle Social Development Program combined training to improve the social and cognitive skills of primary school children with a parenting programme and classroom management skills training for teachers. A six-year follow-up when participants were 18 showed some encouraging results, including reduced levels of violent, criminal behaviour, heavy drinking and risky sexual behaviour compared with a control group (Hawkins *et al.*, 1999). The principles put forward in *The Incredible Years*, have been extended into primary schools through the Dina Dinosaur Classroom Curriculum and accompanying training for teachers (Webster Stratton & Reid, 2003).

Meanwhile, the potential preventive

value of high-quality nursery education, especially with children who are heavily exposed to risk factors in socially disadvantaged neighbourhoods, has long been demonstrated by the famous High/Scope Perry Preschool Program in the US. Longitudinal research since the early 1960s had followed 120 children from a disadvantaged neighbourhood who were placed in matched pairs and randomly allocated to the preschool programme or a control group. The latest results, gathered at age 40, show a continuing pattern of significantly fewer arrests, fewer jail sentences, better qualifications, less unemployment and higher earnings among the treated group. It is now estimated that every US dollar invested in the original preschool programme produced real-terms benefits of almost \$13 for the general public (Schweinhart *et al.*, 2005).

No time like the present

The evidence concerning the impact of risks in the earliest years of children's lives is now compelling. Offering early preventive services to parents and children can not only meet the needs of individuals and society, but also make great financial savings.

In recent years, the concept of prevention based on knowledge concerning risk and protective factors has been

embraced by governments (France & Utting, 2005). In the UK it influenced the government's consultation paper *Every Child Matters* and the Children Act 2004 that followed. Each local authority area must now have its Director of Children's Services and its Children and Young People's Plan. The policy emphasis is on integrated, cross-agency support and on 'local change programmes to build services around the needs of children and young people so that we maximise opportunity and minimise risk' (Department for Education and Skills, 2003). As service planners set about implementing the legislation, we hope they will take note of the evidence reviewed in this paper (and in Sutton *et al.*, 2004) that preventive support must be available from the earliest possible age if children who are most heavily exposed to risk are to be protected against the kind of life-course persistent behaviour problems we have described. To be truly effective, action that reduces risk and enhances protection will need to be sustained over time and reinforced in different settings as children develop.

We would also argue from the well-evaluated programmes we have cited that there needs to be greater rigour in the selection of approaches to support parents, from pregnancy onwards. There is a need for an audit of prevention programmes

used by local authorities and other organisations with the aim of ensuring that evidence-based approaches are used more widely. We need to pay more attention to implementation and the fine print of how interventions are replicated; and we need to encourage programmes that have not yet been rigorously evaluated to submit themselves to this evaluation.

We also need more research that will assist policy makers and the communities they serve in making sensible choices.

Reliable information on cost-effectiveness would be one important example. But a research agenda for improvement should

'Preventive support must be available from the earliest possible age'

not be taken as an excuse to delay. We put off action to increase our investment in

preventive services for young children who need them at our peril, as well as their own.

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