

The ‘Knife Crime’ phenomenon –

A psychological perspective on youth knife culture

“Looking back I know that was wrong, but at that stage you end up in the mind frame you think - fuck this” Nick, 17, (Marfleet ,2008)

Teodora GLIGA

BPS Parliamentary Office

Thanks to:

Helen Cowie

Martin Fisher

John Hanna

Theresa Marteau

James McGuire

Simon Moore

Alex Sutherland

Nadia Wager

Jenny Taylor

Huw Williams

Per-Olof Wikstrom

for their comments and suggestions at various iterations of this report.

- **Many young people carry knives not with the deliberate intention to harm, but to protect themselves or to gain respect from peers. It is important to decrease fear of crime and give young people alternative strategies to build self-esteem.**
- **Although it is not possible to predict whether and when an individual will commit a violent crime, research into the psychology of violent behaviour has uncovered those individual and social factors that increase the likelihood of a violent act.**
- **“Norms of behaviour” are acquired through social learning from family or peers. These norms can lead to automatic behaviour choices: when aggressed, retaliation is the only response that comes to mind.**
- **Adolescence, a period of increased sensitivity to peer pressure, heightened interest in risk taking and decreased sensitivity to punishment, adds to the risk of getting involved in violent conflicts.**
- **To work on the adolescent brain, deterrent and corrective measures should be built on positive feedback for good behaviour instead of negative feedback for bad behaviour.**
- **Certainty of punishment and not the harshness of punishment deters young people from crime.**
- **To decrease recidivism custodial punishment must be accompanied by appropriate, long term, psychological and social interventions. It is possible to change a young person’s social environment, or give them the cognitive tools to diminish the impact of a negative social environment.**
- **To increase efficiency all interventions should be designed based on scientific theories and evidence. Where possible, their impact should be evaluated using golden-standard statistical methods (i.e. randomized controlled trials).**

Vivid stories of young people stabbing each other and of pupils bringing knives into school have attracted the attention of the media and of central policy makers in the recent past. Statistics released by hospital emergency rooms suggest that ‘youth knife crime’ reflects more than just a media phenomenon or a political catch phrase. The number of hospital stabbing admissions where the victims are under 18 years of age has doubled in the past five years [1]. In response to such figures a variety of measures have been initiated, aimed at tackling the emerging ‘knife crime’ and ‘knife culture’, seemingly without first acquiring a comprehensive understanding of the phenomenon. Such measures include the introduction of metal detectors in schools, frequent ‘Stop and Search’ actions, and longer maximum sentences for possessing a bladed instrument (i.e. knife).

This briefing has been prompted by the belief that **Psychology** (in particular its specialist areas of developmental, clinical, educational, and forensic) is crucial to the understanding of the complex social phenomenon hidden under the ‘knife crime’ umbrella. Three important aspects of the ‘knife crime’ phenomenon have been identified where the science of psychology can bring answers and solutions.

We start by exploring the *motivations behind knife carrying* by young people. Evidence suggests that an intention to harm is only one of these motivations. Secondly, we consider *individual factors linked with interpersonal violence* in adolescents: e.g. peer and family influences, personal traits, intoxication. Finally, we will turn to the research on *risk perception* to show why the perceived likelihood of arrest and not harsher policy deters young people from violence, and why fear of crime is driven by *the perceived likelihood of victimisation* and not by actual crime rates.

The aim is not only to review the scientific evidence available, but also to consider the potential effectiveness of measures taken to address knife crime and importantly to suggest potential alternative interventions which are driven by BPS long tradition of psychological research and practice.

1. Knife carrying

Based on the assumption that knife carrying leads to the commission of a violent crime, the sentencing options for being in possession of a bladed article have been increased from a maximum of two years to a maximum of four years imprisonment. However, recent UK surveys, and previous psychological research on the motivations behind weapon carrying suggest that intending to threaten or harm is only one of the reasons, other significant motivations being personal protection, or protecting family and friends, which may overcome the fear of imprisonment.

Defensive vs. offensive weapon-carrying

Many young people in UK, but also in other countries (i.e. Australia), state that they carry weapons *to protect themselves from physical attack or being robbed* and not to harm [2]. Many of these young people have been victims of violence, have witnessed it or have been threatened with knives/dangerous implements in the past. Others decide to arm themselves only because they *believe* that other people in the school or local neighbourhood carry guns or knives [3, 4]. It is well known that knife carrying is more frequent in young people excluded from school and involved in gang activities [5, 6]. These people are often successively victims and then perpetrators of violence [7] and therefore, may have difficulty distinguishing between defensive and offensive knife carrying. Both motivations could have been true at different moments in time and one could easily lead to the other (“protecting” oneself may involve threatening or harming).

Fear of victimization can lead to increased knife-carrying because experiencing prolonged fear, as a result of repeated verbal or physical aggression, can lead to *depression, or anxiety* [8]. This is particularly true of younger people, in the 10 to 15 age group who, among adolescents, express the highest fear of victimization [6]. This is also the age group who may be less sensitive to the consequences of risky behaviour (see Box 1)

Metal detectors, after-school police patrols and giving search powers to teachers are designed to increase safety on school grounds. Although teachers welcome most of these

measures [9], no research has been conducted to date in UK to estimate whether the perceived school safety has indeed increased following their introduction. An evaluation of the effects of ‘zero tolerance’ policies in US schools, published by the American Psychological Society, found that they did not affect parents’ perceptions of levels of safety, and found evidence for an inverse relationship between school expulsion and school academic achievement [10]. Factors proposed to explain the failure of these measures included:

- schools were already a relatively safe place, as opposed to the street;
- adopting ‘zero tolerance’ policies signalled to pupils and parents that there was an imminent danger, thus leading to increased fear and its detrimental effects; and,
- school expulsion for knife carrying may be used as a strategy to skip school.

Popularity amongst peers

Another reason often given for carrying knives is the need to be accepted and “respected” by peers [4,5,6]. Peer socialization becomes crucial in late adolescence (see Box 1). The consequences of acquiring popularity amongst peers can go from accepting certain dress codes, to substance use and delinquency, (e.g. carrying a weapon) [11]. Whether young people will decide to carry a weapon, excel in sports or an academic discipline to increase their status amongst peers, depends on the social mores which prevail in the community at large or within their families or peers (see Box 2). Joanna Barlas of Glasgow Caledonian University asked British teenagers what they thought about carrying a weapon. Surprisingly, it was those *not carrying* weapons that mostly believed weapons bring respect, power, or make them look ‘cool’ [2]. Thus, although the decision to arm oneself may initially be driven by the desire to gain status, these perceptions change once one experiences the pros and cons of being armed.

Violence is only one of the reasons young people carry knives. To diminish knife carrying, policy measures have to address all the underlying motivational factors.

Box 1 : The adolescent brain and antisocial behaviour

*The age–crime curve for property crime and violence is a universally observed curve showing that the prevalence of offending is low in late childhood and early adolescence, peaks in middle to late adolescence and decreases subsequently [13]. Longitudinal studies have shown that this adolescence-limited profile accounts for a quarter of those involved in violent offences [14, 15]. The increase in offending at adolescence is paralleled by an increase in other risky behaviours like smoking and substance use [16]. We know now that the increase in risk-taking behaviour is not the result of teenagers not being able to perceive risk but of **difficulties they have with decision making, especially under challenging emotional or social conditions** [17]. Adolescents are biased towards choosing immediate rewards, even if these rewards lead to a delayed punishment [17]. Adolescents that show the strongest bias towards immediate gratification also show greater involvement with alcohol, marijuana and they underperform academically [18].*

Teenagers are in general more sensitive to rewards than punishment [19]. Thus, strategies that employ positive reinforcement of desired behaviour (e.g. telling them that not giving in to peer pressure is a sign of self-control and praising them for exercising self control) may be more effective than those emphasizing the negative consequences of risky behaviour (e.g. “Carry a knife and the consequences will follow”, Met Police ad). An exception from this rule are social rewards. Both peer acceptance and rejection strongly activate areas of the brain involved in reward recognition [20].

These behavioural characteristics are the potential consequences of changes in brain anatomy and function taking place during adolescence [17]. Brain areas involved in immediate reward seeking and in processing emotional information (e.g. the limbic system) are very active during early adolescence. The increased sensitivity to peers is related to changes in oxytocin release in the brain. This hormone and neurotransmitter also acts within the limbic system and appears to be connected with aspects of affective bonding. In a similar way that biological changes in early adolescence make young people susceptible to join delinquent groups and get involved in risky antisocial behaviour, other biological changes, in late adolescence, will increase self-esteem and decrease the susceptibility to peer influence [17]. Limbic areas are under the control of the pre-frontal cortex, which becomes fully mature only in late adolescence. This area of the brain helps inhibit impulsive behaviour by allowing more information to be taken into account in decision-making (e.g. estimating the probability of being caught, knowledge about punishment severity, alternatives ways of solving conflict).

***The increase in risk-taking and the susceptibility to peer influence in adolescence is normative, biological driven and a useful process, from an evolutionary psychology perspective.** In reaching sexual maturity young people need to venture away from the family environment in search of an appropriate partner and, frequently, compete for this partner with their peers (which implies competing for a certain status) [12]. Despite these generic developmental processes not all adolescents take the anti-social behaviour path. Whether this will happen or not depends on many personal and social factors but also on the opportunities available to satisfy adolescents’ needs for strong sensations; “Being bored” is the most common reason they give for offending [5]. Diverting adolescents towards behaviours that are not damaging to themselves, and to others, but satisfy their need for immediate positive rewards and strong sensations could contribute to reducing their involvement in anti-social behaviour.*

2. Knife-mediated violence

Only a small proportion of young people are responsible for the majority of violent offences [15], therefore, research has been aimed at finding individual factors that might predispose certain young people to violent behaviour (e.g. cognitive and emotional abilities, the norms of conduct learned from family or peers or the amount and quality of parental supervision). Conversely, because even a persistent offender will not act violently at every encounter it is also important to look at particular situational characteristics such as the effect of alcohol consumption, or the presence of peers on the process of decision making.

Risk-factors analysis

A widely used approach to understanding, and estimating, the likelihood of violent behaviour is through the assessment of well-established *risk and protective factors*. These are characteristics that can increase or decrease the chance of engaging in a set of criminal behaviours. Individual characteristics (e.g. temperament, personality features, developmental history), family context (e.g. parental supervision, an antisocial parent), or the social and economic environment (e.g. poor neighbourhoods, the presence of gangs) have repeatedly been highlighted as risk factors [21] This approach is relatively successful in assessing the likelihood of re-offending (e.g. a good predictor for being caught carrying a knife is having already been caught carrying a knife) but this approach is not as accurate for rare offences, like homicide [22] [23].

Recently, there has been an increased interest in identifying *early risk factors* for delinquency in general and violent behaviour in particular. Identifying at-risk children might facilitate effective interventions even before a child has stepped onto a path towards likely delinquency [23]. Care should be taken that labelling a child as being “at-risk” does not lead to social exclusion, which is in itself a risk factor for anti-social behaviour. One potential approach is to always assess both risk and protective factors and to portray them as “indicators” and not “predictors” of later “good” or “bad” behaviour.

Cognitive and Emotional abilities.

Violence can be seen ultimately as a *decision-making* act, where long-term costs (legal sanctions, loss of social support, delayed retaliation) are disregarded for the sake of immediate benefits (emotional satisfaction, monetary gains) [24]. A number of individual characteristics like *low self-control*, *ability to project oneself in the future* or *low empathy* could bias a young person's decisions towards immediate benefits and against the long-term costs of their actions [13, 25].

When assessed at their place of confinement, away from the highly emotional world of real conflicts, violent offenders did not consistently differ from non-violent offenders in tasks measuring their *cognitive abilities* [26, 27] nor did juvenile offenders in general differ from non-offending adolescents [28]. In the latter study all (adolescent) participants were equally biased toward choosing immediate monetary rewards, and did not differ in the way they planned for future events in their life (e.g. buying a car, marriage). Thus, cognitive abilities measured off-line cannot be used as selective predictors of violent behaviour.

However, looking at *emotional abilities* gives different results. Juvenile offenders and those convicted for weapon related violent offences show a higher bias towards sensation seeking and risk-taking [24, 28]. Moreover, aggressive adolescents are less able to recognize emotional expressions and they over interpret other people's behaviour as hostile [29]. Young offenders show less empathy towards other people's feelings [25]. Adding the tendency to over-attribute hostility to others, to a propensity towards risky behaviour could be enough to prompt conflicts and violent behaviour¹ [30].

It is believed that detecting the causes/correlates of problem behaviours early in life would increase the success of interventions. Evidence suggests that a small proportion of school-aged children show persistent aggressive behaviour and deficits in the processing of emotions. These characteristics are called *callous-unemotional* traits and appear to be congenital in origin and are *highly heritable* [31]. Another group of children, which suffered from head traumas early in life which have affected the frontal cortex are also less able to control behaviour and to read emotions in others. These difficulties become accentuated in adolescence, when the socio-emotional demands increase [32]. Studies in a prison population showed that violent criminals

¹ *A-level student stabbed to death in bus brawl over a 'dirty look'*, The Evening Standard 28 Dec 2007

tend to have a history of untreated repeated childhood brain injury ²[33].

Thus it seems that there are certain acquired or innate traits that increase the chance of later involvement in anti-social behaviour. Nonetheless it is crucial to remember that only a small proportion of those manifesting callous-emotional traits, or having had traumatic head-injuries in childhood will go on to offend. High-risk neighbourhoods and negative home environments are required as an additional permissive and formative environment for these biological factors to lead to violent behaviour [34]. Multiple factors should always be taken into account before an individual is singled out for intervention.

Moral norms and violent behaviour

The course of action taken in response to aggression, whether retaliation or walking away, is also dependant on which of these reactions an individual considers appropriate and morally acceptable given the situation. These “moral norms of behaviour” are acquired through social learning from family, community, or peers [35] (see Box 2). These norms can become sufficiently automatic [36] so that when the moment comes to make a decision about how to react to aggression, retaliation is the only alternative which comes to mind. A series of social psychology studies from University of Michigan compared the reaction to insults of undergraduates raised in the South and the North of United States. The southerners, where a ‘culture of honour’ requires that a man restores his diminished reputation (following an insult) by aggressive or violent behaviour, were more upset (as shown by increased levels of cortisol and testosterone) and more likely to react violently [37].

Importantly, just as anti-social moral norms can bias a person towards violence, acquiring pro-social norms diminishes violent behaviour, even in young people who show low self-control and are thus considered “at-risk” [36]. It is, therefore, both challenging and crucial to find the appropriate means to influence young peoples’ moral norms, offering them pro-social alternatives for action in social settings. For example, recent research shows that playing pro-social video games leads to a decrease in aggressive thoughts [39], but see Box 2 for the challenges faced by attempts to change moral norms.

² (Huw Williams, University of Exeter, evidence brought within the APPG for Acquired Brain Injury)

Box 2: Learning behaviour norms

The actions an individual will take to diminish their fear, or to gain “respect”, whether carrying a weapon or excelling in sport, will depend on the social norms accepted by the community the individual identifies with, be it peers or family [40, 41]. In a similar way one acquires stereotypes and prejudices about certain social groups, for example racial beliefs, beliefs about allies vs. enemy gangs, or attitudes towards the police [42].

Norms and beliefs do not have to be taught explicitly (e.g. a parent telling their child that carrying a knife is acceptable). Simply overhearing others express these views, witnessing repeated violence, or being a victim of violence is enough to make children perceive weapons and violence as accepted or desirable [40]. Exposure to community violence in general increases children’s aggression [43]. Children raised in families where aggressive retaliation is the norm, over-attribute hostile intent to other people’s behaviour [45]. A study of adolescents admitted to an emergency department for youth assault-related injuries showed that parents and children had very similar attitudes about fighting, and that these attitudes correlated with the child’s aggressive behaviour, and school expulsion [46]. When the influence of parents is diminished, peer groups and their norms take over [47, 48]. Among a sample of Australian young offenders, gun users were more likely to have been introduced to guns by their peers than by older relatives [49].

*The role of the **media** in influencing moral norms and encouraging aggression has been widely debated and it is now agreed that while it is not, on its own, responsible for ‘real-world’ behaviour, the amount of exposure to violent television programmes during childhood, contributes to aggression and violent behaviour [50]. Both short term effects (e.g. imitation of specific behaviours) and long-term effects (e.g. increasing their beliefs that violence is acceptable) have been observed. One of the most important factors seems to be the way violence is portrayed - as a purpose in itself instead as of a means towards a morally accepted goal, only the first scenario leading to increased violent behaviour [51].*

Parents, community, peers or the media all require a lengthy and intense period of exposure in order to influence the moral norms that will guide a young persons’ behaviour. Un-learning these norms will also require lengthy exposure to pro-social environments. This poses a challenge to any “quick-fix” attempts to change behavior norms.

Parental control

Parental supervision is the strongest and the most replicable predictor of offending [23]. Young people often mention “Worry about how parents will react” as a deterrent factor [5]. The emotional nature of the parental supervision is crucial: authoritative parents (warm and affectionate, yet firm in establishing behavioural habits) but not authoritarian parents (that impose a lot of psychological control and are less warm) are more able to successfully control

adolescents' behaviour [52]. Parents that involve their adolescent in joint decision-making and place an emphasis on academic achievement can lead to a decrease in teenagers' involvement in drug use, and can even influence the type of peer group they join (i.e. delinquent or not) [53].

Peer pressure

Young people are far more likely than adults to commit crimes in groups, rather than by themselves [54]¹. This is true of many criminal activities and is explained by the 'dilution of responsibility'. In addition, the presence of the peer group is a strong catalyst for risky behaviour because it is an opportunity to *reaffirm status within the group*. Studies have shown that in the presence of peers, adolescents are biased towards making risky decisions [55] and increase their stated willingness to behave in an antisocial fashion [17]. The impact of peers is highest in early adolescence (10 to 14 year olds) but decreases gradually between 14 and 18 years of age, as the ability to self-control develops [56] (see Box 1).

Alcohol consumption

Alcohol consumption is one of the major risk factors for violent offending [21] and increases the level of both violence or vandalism [57]. Experimentally induced intoxication increases the amount of risk taking and diminishes the perceived impact of negative consequences [58]. The Violence Research Group at Cardiff University has studied the link between alcohol consumption and violence in a large group of teenagers. The frequency of drunkenness was linked to both the frequency of hitting others and of being hit. [59].

This brief review of factors associated with violent behaviour is not exhaustive. Our primary focus was on factors that are frequently discussed in relation to youth violence. Importantly, none of these factors is in itself sufficient or necessary for violence to occur. Most violence is the result of a plethora of coincidental individual, social and contextual factors. To better understand violence and to better tailor preventative policies we should use a cumulative assessment of individual and social risk-factors.

3. Risk perception, risk communication and behaviour

Understanding risk perception is crucial for understanding ‘knife crime’. One of the expected effects of punishment is deterring people from committing crime. It is widely accepted that harsher punishment does not necessarily lead to a decrease in crime. Whether a young person will commit a crime depends first of all on how likely they believe they are to be punished. Whether a person will take precautions to prevent becoming a victim of crime also depends on how likely they think that it can happen to them.

Risk perception and deterrence

Contrary to its expected effect, the adoption of harsh punishments does not always lead to a decrease in the levels of criminality. Prolonging sentences does not proportionally decrease the rate of juvenile offences [60]. In Texas, one of the most active death penalty States, there is no correlation between the execution rate and the murder rate.

Research on decision-making has shown that for punishment to work (1) punishment has to be certain and (2) it has to be administered immediately after the crime was committed [61]. Home Office data suggests that only about 2 per cent of all offences committed result in a conviction [62]. This makes young people believe that they are unlikely to be caught carrying a knife, therefore diminishing the expected deterrent effect of these measures (see Box 3). Many young people know, from personal or their friends’ experience, that even if caught carrying a knife they can avoid a custodial sentence [7]. Therefore the priority should be on increasing the certainty of punishment, not increasing its harshness.

The media has an impact on risk perception (see Box 3). The majority of crime news focuses on the victim, and only for a short period of time after the event. We rarely hear about criminals being caught and punished, their personal characteristics and their motivations. Also, a great emphasis is put on the outcome of sensational, but rare, crimes like murder. All these factors diminish the chance that a potential perpetrator identifies with a prosecuted criminal and thus perceives the risk level associated with a certain crime.

Risk perception and fear of crime

When the fear of crime is commensurate with the actual risk of victimisation this can encourage good personal safety habits and increased personal and property security, thereby minimizing the risks of becoming a victim. On the other hand, disproportionate fear of crime can be detrimental leading to ineffective allocation of security resources [63]. When fear is disproportionately high for a long period of time negative effects on physical and psychological health have been noticed [64, 65]. Experience shows that many policy decisions are made based not on actual crime rates but on the expressed level of fear of the population [66]. For all the above reasons, it is desirable that fear should be proportional to the actual risk levels.

UK mortality rates for assault remain very low when compared to other European countries³ or to deaths caused by road accidents [67]. Despite this, surveys show that fear of violent crime in general, and of violent youth crime in particular [68], frequently surpasses fear of other, more frequent causes of death. Adults overestimate the degree of crime committed by children [69] and ‘young people hanging around’ is one of the most frequent complaints expressed in the British Crime Survey.

It is a difficult task to estimate how likely it is for an event to occur, especially for rare events (i.e. being attacked in the street by a youth gang) (see Box 3). The media greatly contributes to this misperception. People who read newspapers, which present a large proportion of *highly emotional* crime news, report higher levels of fear [70]. People’s judgments of causes of death follow closely the proportion in which they are reported by the press, violent death being over-rated and disease under-rated [71]. For example homicide represents only 0.02 percent of crimes, but account for 30 percent of news stories in the United States [72]. *Many news stories lack information about precipitating events* (e.g. little is said about the relationship between victim and aggressor or about the victim’s lifestyle). This makes it difficult to estimate the likelihood that a given individual will become a victim of a particular type of crime [70].

Fear can affect inter-personal relationships, an undesirable consequence, especially in institutions where a good relationship between adults and young people is crucial for proper functioning. Measures taken to protect teachers from young people (e.g. teachers have the legal right to report, and to search, pupils and, in certain regions teachers but not students have been

³ 1/100000 in UK and France vs. 20/100000 in the Russian Federation

offered self-defence classes) may act as an additional alarm signal and have detrimental effects on the teacher-student trust relationship [73].

Box 3. Risk perception

Kahneman, a psychologist and Tversky, an economist, have shown that people are relatively bad at calculating the likelihood of events occurring and often, instead, employ simple heuristics or 'Rules of Thumb'[74]. For example, we rate as more likely those events that are easily accessed from our memory, for example things that have happened in the recent past. Thus, in contradiction to what the statistics tells us, the more time passes since the last time someone has been caught by the police, the less likely they would think that could happen again. Another heuristic says that immediate consequences are more likely to happen than remote consequences. When preparing a robbery, thieves fear more that their plan will fail, than the consequences of being caught [61]

To make the risk estimates even more difficult, in modern society, a great deal of information is gained vicariously from the media (newspapers/magazines and television) and not through personal experiences [72]. The media can make us "witness" events that we are highly unlikely to have experienced personally, increasing the perceived risk of rare, sensational crimes.

Frequently the statistics are communicated to us as numbers. Although this seems like the most accurate way of finding out risk levels, the format of the statistical information affects how easily we understand them. Our brains can deal with small numbers and simple proportions. Research in risk communication in the medical field suggests that people better understand statistical figures if they

(1) don't require additional mental calculations (e.g. "1 per cent of the 16 year olds carrying a knife do it with the intention to harm", how many people is that ?);

(2) make use of diagrams and

(3) present statistics as percentages not as frequencies (0.02 per cent instead of 2 in 10000) [75].

Crime rates should not only be expressed as an increase in rate, which may seem high even if the absolute figures are low (e.g. from The Telegraph, 27 January 2008: "Youth gangs triple child murder rate" in reaction to a jump from 12 to 37 last year). Relative risks should be made available for comparison (e.g. deaths due to murder are still lower than those due to road accidents).

4. Interventions to diminish anti-social and offending behaviours

A variety of interventions have been implemented to deter young people from ‘knife crime’. Some of these interventions have targeted whole communities (e.g. schools, neighbourhoods) and consisted of raising awareness, others have been focused on “at-risk” individuals, aiming to change their behaviour and way of thinking. Only a small proportion of these interventions have been properly evaluated.

Raising awareness about the legal and medical consequences of knife crime

These programmes offered community-wide (e.g. ‘*Be Safe Project*’, ‘*It’s Not a Game*’) or targeted at young offenders (e.g. within YOTs as part of the *Knife Referral Program*). Where such initiatives have been evaluated (mainly in the US) they have shown that instructing pupils and adolescents about what they should/should not do, without giving them the appropriate cognitive and emotional tools for dealing with peer pressure and sensation seeking, do not have long term impacts [76, 77]. For example, in the case of substance abuse, unprotected sex or drinking, campaigns have increased risk awareness without diminishing these behaviours [17, 78].

Other approaches aimed at making young people aware of the emotional and medical consequences of ‘knife crime’ involve showing them pictures of knife wounds or bringing them in contact with victims. This approach did not show positive results in the US [77] and may actually have detrimental effects, for example by increasing fear of crime and vulnerability, especially if the targeted audience is young [78].

Behavioural interventions

A variety of interventions have aimed to diminish anti-social behaviour and offending by acting on young people’s cognitions: inducing pro-social attitudes, improving decision-making and emotional control, diminishing peer influence, and increasing self-esteem.

Changing the social environment and the moral norms a young person is exposed to. Surrogate families, in the form of mentors or teaching family homes, who establish a solid, caring, long term relationship with the juvenile offender(s) are more successful than trying to improve the

original family environment directly [79, 80]. Involving young people in sports has a positive effect when strong, authoritative relationships are established between project leaders (mentors) and pupils [81, 82]. Amongst the least effective are interventions where authoritarian discipline is imposed (e.g. boot camps) or where the young person is exposed to a delinquent environment (e.g. prison visits).

Teaching the cognitive and emotional tools necessary to improve behaviour. A meta-analysis of school intervention programmes showed that social competence training, which teaches methods to resolve peer conflicts, deflect criticism, and assert pupils' opinions in a non-provocative manner, diminishes anti-social and aggressive behaviour [83]. Cognitive-behavioural therapies (CBT) showed promising results in diminishing anti-social behaviour, and re-offending within one to two years from completion [55, 56]. CBT approaches are diverse and vary from one intervention program to another (e.g. 'cognitive restructuring' aims at correcting dysfunctional thought processes or misperceptions of social settings; 'Coping-skills' improve the ability to cope with stressful situations). These interventions may not be suitable for all age groups, for example, it is questionable whether young people master the ability to evaluate their own thoughts or interpersonal relationships, a skill required by CBT [57].

Multi-systemic approaches, integrate behavioural cognitive approaches with parental training. These interventions are based on identifying a variety of risk and protective factors in a young person's social environment (family, peers, school), and, with the help of parents, increasing the impact of the former and diminishing the impact of the latter. Multi-systemic interventions are more effective than CBT in diminishing re-offending in serious and violent juvenile offenders [84].

Evaluations

Across intervention types, a few common requirements for success stand out: (1) adapting the intervention to the individual's cognitive and emotional abilities and to individual's risk factors; (2) making sure the treatment providers are well trained and (3) continuously monitoring and

correcting service quality through evaluations. In order for interventions to be effective it is crucial that their feasibility and their impact on behaviour are thoroughly evaluated.

In order for interventions to be effective it is necessary, but not sufficient, to know that their design was based on scientific evidence and theories. Because this evidence comes sometimes from smaller scale, well-controlled laboratory-based studies it is crucial that the implementation and the impact of large scale-interventions be thoroughly evaluated.

A good evaluation has to fulfil three requirements:

(1) to detect any change in behaviour pre- and post- intervention measures have to be compared;

(2) to make sure that these changes are due to the intervention and not to other simultaneous changes in the environment, treatment groups have to be compared to control groups;

(3) individuals/communities have to be randomly assigned to the treatment and control groups (randomized controlled trial).

To fulfil these requirements, evaluations have to be planned and carried out in parallel with the intervention and not at the end of it, as frequently is the case. Evaluations have to be followed by meta-evaluations, which are review studies comparing the relative effectiveness of various interventions (see two examples of such meta-evaluations in Fig 1 and 2).

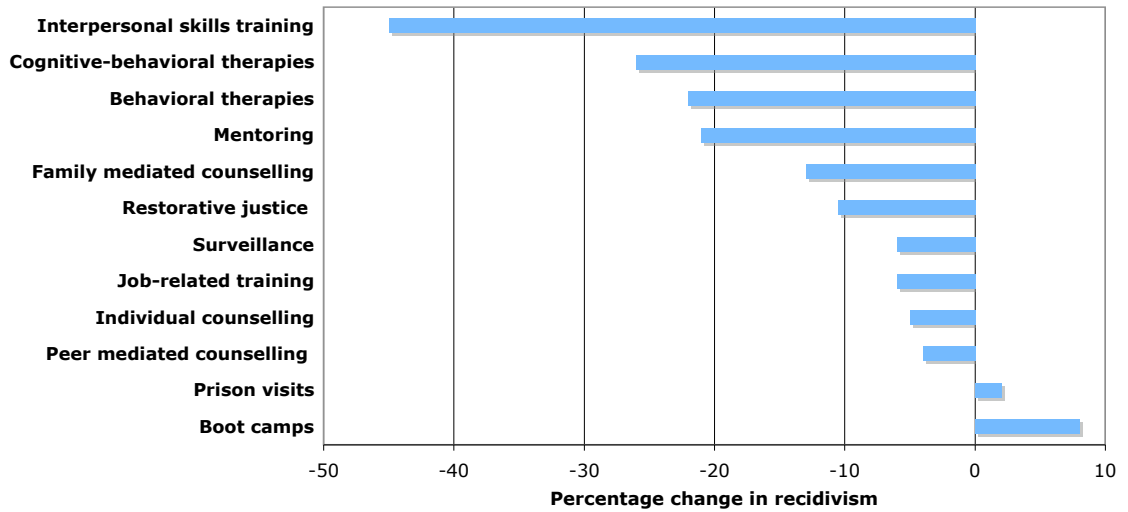


Fig 1. Changes in recidivism rate of juvenile offenders following various types of interventions; a negative change means a decrease in recidivism rate (adapted from Lipsey, 2009)

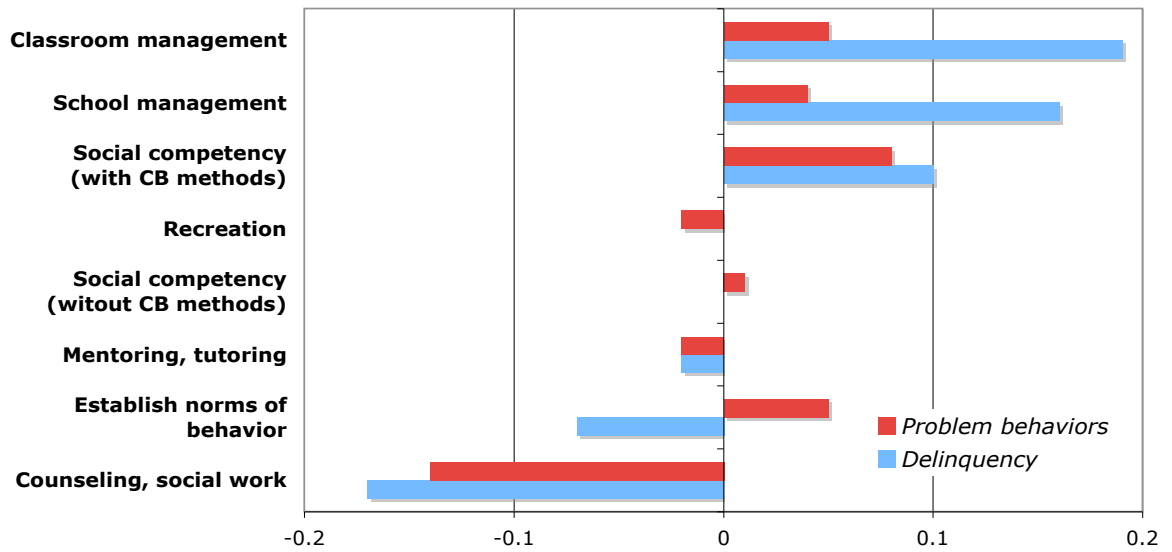


Fig 2. Changes in delinquency and problem behaviours function of various school-based interventions; positive numbers indicate a decrease in delinquency and problem behaviours (adapted from Wilson et al., 2001)

Final comments

Looking at the psychological factors behind 'knife crime' has revealed a complex phenomenon. Based on their statements, young people carry knives because they want to protect themselves, or because they want to be respected by peers. Deterring them from carrying knives requires decreasing fear of crime, and giving them alternative strategies to build self-esteem. School suspension of those caught carrying knives may diminish other pupils' fear of victimization but could also be seen as a medal of honour by those young people keen to raise their status amongst peers.

Yet other young people, trapped in cycles of violence, carry knives with the intention to retaliate to previous verbal or physical attacks. Although it is not possible to predict when and whether a violent crime will occur, research into the psychology of violent behaviour has uncovered the individual and situational factors that increase the likelihood of a violent act. The social environment in which a person is raised can influence their propensity to read hostility in other people's behaviour, and to respond to violence with violence. The presence of peers, and alcohol consumption, bias young men towards immediate emotional satisfaction through violence, and to disregard the long-term consequences of their actions.

This document has been prompted by a recent increase in violence between teenagers. Adolescence, a period of increased sensitivity to peer pressure, heightened interest in risk taking and decreased sensitivity to punishment, inherently adds to the risk of getting involved in conflicts that may end in violence. Deterrent and corrective measures have to take into account the cognitive and emotional profile of this age group, for example they should give positive feedback for good behaviour instead of negative feedback for bad behaviour. They should make people aware about immediate consequences of their behavior and they should put more emphasis on the social aspect of these consequences.

It is encouraging to see that the interventions implemented to diminish anti-social behaviour and re-offending are more and more inspired by, and draw upon, scientific evidence. This is not true for all types of interventions. A recent example is the case of the Tackling Knife Crime Programme, which focused on increased policing, Stop and Search activity and longer custodial sentences. Because these measures have had no impact on the *certainty* of the punishment, the impact on crime levels in the targeted areas has been minimal.

If a person has reached a point where a community/custodial punishment is necessary, that must be accompanied by psychological interventions. A few practices that have given positive results consist in changing a young person's social environment, or giving them the emotional and cognitive tools to diminish the impact of a negative social environment. All these approaches require long term, consistent investment.

It is important that the public perception of youth crime is proportional to the actual prevalence of crime. Disproportionate fear of crime can lead to allocating security resources ineffectively, at both a personal and governmental level. We suggest that the way crime is covered by the media could be a source of disinformation and in consequence, create excessive fear of 'knife crime' and of young people. It is desirable that media presentation of news be more factual and less sensationalist (The Ofcom Broadcasting Code⁴). In parallel, statistical data should be communicated, in a transparent and easy to understand manner.

'Youth culture' has taken many forms along the years, with various emphases on anti-social behaviour, depending on the socio-economic and cultural context (e.g. Mods, & Rockers, Punks). The current 'knife culture' is yet another manifestation of an important but difficult transition in a young person's life. Not children anymore but still psychologically immature and therefore fragile, adolescents require firm

⁴ http://www.ofcom.org.uk/tv/ifi/codes/legacy/bsc_codes/bsc_scode.pdf

emotional support and moral guidance provided by parents, teachers and peers for this transition to occur smoothly

REFERENCES

1. *Hospital accident and emergency admissions for gunshot, wounds and stab injuries.*, D.o. Health, Editor. 2008, House of Commons Library.
2. Barlas, J. and V. Egan, *Weapon carrying in British teenagers: the role of personality, delinquency, sensational interests, and mating effort.* Journal of Forensic Psychiatry and Psychology, 2006. **17**(1): p. 53-72.
3. ComRes, *BBC London Gun and Knife Crime, survey.* 2007.
4. Williams, S.S., et al., *Adolescents carrying handguns and taking them to school: psychosocial correlates among public school pupils in illinois.* Journal of Adolescence, 2002. **25**: p. 551-567.
5. Phillips, A. and V. Chamberlain, *MORI Five-year report: an analysis of youth survey data.* 2006, Youth Justice Board.
6. Roe, S. and J. Ashe, *Young people and crime: findings from the 2006 Offending, Crime ad Justice Survey.* 2008, Home Office.
7. Marfleet, N., *Why carry a weapon ? A study of knife crime amongst 15-17 year old males in London.* 2008, Howard League for Penal Reform: London.
8. Boulton, M.J., M. Trueman, and L. Murray, *Associations between peer victimization, fear of future victimization and disrupted concentration on class work among junior school pupils.* Br J Educ Psychol, 2008. **78**(Pt 3): p. 473-89.
9. Neill, S.R.S.J., *Knives and other weapons in London schools.* The International Journal on School Disaffection, 2005. **13**(2).
10. Skiba, R., et al., *Are Zero Tolerance policies effective in the schools ? An evidentiary review and recommendations.* 2006, American Psychological Association.
11. Allen, J.P., et al., *The two faces of adolescents' success with peers: adolescent popularity, social adaptation, and deviant behaviour.* Child Dev, 2005. **76**(3): p. 747-60.
12. Charles, K.E. and V. Egan, *Mating effort correlates with self-reported delinquency in a normal adolescent sample.* Personality and Individual Differences, 2005.
13. Farrington, D.P., *Delinquency and crime: Current theories.* 1996: Cambridge University Press.
14. Hoeve, M., et al., *Trajectories of delinquency and parenting styles.* J Abnorm Child Psychol, 2008. **36**(2): p. 223-35.
15. Thornberry, T.P., et al., *Linked lives: the intergenerational transmission of antisocial behaviour.* J Abnorm Child Psychol, 2003. **31**(2): p. 171-84.
16. McVie, S. and P. Bradshaw, *Adolescent Smoking, Drinking and Drug Use.* 2005, Centre for Law and Society, The University of Edinburgh: Edinburgh.
17. Steinberg, L., *A Social Neuroscience Perspective on Adolescent Risk-Taking.* Dev Rev, 2008. **28**(1): p. 78-106.
18. Wulfert, E., et al., *Delay of gratification: impulsive choices and problem behaviours in early and late adolescence.* J Pers, 2002. **70**(4): p. 533-52.
19. Cauffman, E. and L. Steinberg, *(Im)maturity of judgment in adolescence: why adolescents may be less culpable than adults.* Behav Sci Law, 2000. **18**(6): p. 741-60.

20. Nelson, C.A., *Brain development during puberty and adolescence: comments on part II*. Ann N Y Acad Sci, 2004. **1021**: p. 105-9.
21. Sutherland, A., et al., *Role of risk and protective factors*. 2005, Youth Justice Board: London.
22. Loeber, R., et al., *The prediction of violence and homicide in young men*. J Consult Clin Psychol, 2005. **73**(6): p. 1074-88.
23. Farrington, D., *Childhood risk factors and risk-focused prevention*, in *The Oxford Handbook of Criminology*, M. Maguire, R. Morgan, and R. Reiner, Editors. 2007, Oxford University Press: Oxford.
24. Brennan, I., S.C. Moore, and J.P. Shepherd, *Aggression and attitudes to time and risk in weapon using violent offenders*. Psychiatry Research, in press.
25. Jolliffe, D. and D.P. Farrington, *Empathy and offending: a systematic review and meta-analysis*. Aggression and Violent Behaviour, 2003. **9**(5): p. 441-476.
26. Tarter, R.E., et al., *Cognitive capacities of juvenile violent, nonviolent, and sexual offenders*. J Nerv Ment Dis, 1983. **171**(9): p. 564-7.
27. Katz, C. and J. Marquette, *Psychosocial characteristics of young violent offenders: a comparative study*. Criminal Behaviour and Mental Health, 2006. **6**(4): p. 339-348.
28. Wilson, M. and M. Daly, *Are juvenile offenders extreme future discounters?* Psychol Sci, 2006. **17**(11): p. 989-94.
29. Dodge, K.A., et al., *Hostile attributional biases in severely aggressive adolescents*. J Abnorm Psychol, 1990. **99**(4): p. 385-92.
30. Golan, O. and S. Baron-Cohen, *Systemizing empathy: teaching adults with Asperger syndrome or high-functioning autism to recognize complex emotions using interactive multimedia*. Dev Psychopathol, 2006. **18**(2): p. 591-617.
31. Viding, E., *On the nature and nurture of antisocial behaviour and violence*. Ann N Y Acad Sci, 2004. **1036**: p. 267-77.
32. Williams, D. and C.A. Mateer, *Developmental impact of frontal lobe injury in middle childhood*. Brain Cogn, 1992. **20**(1): p. 196-204.
33. Leon-Carrion, J. and F.J. Ramos, *Blows to the head during development can predispose to violent criminal behaviour: rehabilitation of consequences of head injury is a measure for crime prevention*. Brain Inj, 2003. **17**(3): p. 207-16.
34. Meier, M.H., et al., *Impulsive and callous traits are more strongly associated with delinquent behaviour in higher risk neighborhoods among boys and girls*. J Abnorm Psychol, 2008. **117**(2): p. 377-85.
35. Campbell, C., *Learning to Kill ? Masculinity, the family and violence in Natal*. Journal of South African Studies, 1992. **18**(3).
36. Wikstrom, P.-. *Crime Propensity, Criminogenic Exposure and Crime Involvement in Early to Mid Adolescence*. in press.
37. Cohen, D., et al., *Insult, Aggression and the Southern Culture of Honour: An Experimental Ethnography*. Journal of Personality and Social Psychology, 1996. **70**(5).
38. Kersten, J., *Culture, masculinities and violence against the women*. 36, 1996. **381-395**.
39. Greitemeyer, T. and S. Osswald, *Prosocial video games reduce aggressive cognitions*. Journal of Experimental Social Psychology, 2009.
40. Wikstrom, P.-O. and K.H. Treiber, *Violence as situational action*. International Journal of Conflict and Violence, 2009. **3**(1): p. 75-96.
41. Akers, R.L., *Deviant behaviour - a social learning approach*. 1973.
42. Oppenheimer, L., *The Development of Enemy Images: A Theoretical Contribution*. Peace and Conflict: Journal of Peace Psychology, 2006. **12**(3).
43. Guerra, N.G., L.R. Huesmann, and A. Spindler, *Community violence exposure, social cognition, and aggression among urban elementary school children*. Child Dev, 2003. **74**(5): p. 1561-76.

44. Kodjo, K.M., P. Auinger, and S.A. Ryan, *Demographic, intrinsic and extrinsic factors associated with weapon carrying at school*. Archives of Pediatrics & Adolescent Medicine, 2003. **157**(1): p. 96-103.
45. Zelli, A., et al., *The distinction between beliefs legitimizing aggression and deviant processing of social cues: testing measurement validity and the hypothesis that biased processing mediates the effects of beliefs on aggression*. Conduct Problems Prevention Research Group. J Pers Soc Psychol, 1999. **77**(1): p. 150-66.
46. Solomon, B.S., et al., *Youth and parental attitudes toward fighting*. J Interpers Violence, 2008. **23**(4): p. 544-60.
47. Sullivan, T.N., et al., *Core competencies and the prevention of youth violence*. New Dir Child Adolesc Dev, 2008. **2008**(122): p. 33-46.
48. Bendixen, M., I.M. Endresen, and D. Olweus, *Selection and Facilitation Effects on Self-Reported Antisocial Behaviour in Early Adolescence*. European Journal of Criminology, 2006. **3**(1).
49. Harding, R.W., *Gun use in crime, rational choice and social learning theory.*, in *Routine Activity and Rational Choice*, R.V. Clarke and M. Felson, Editors. 1993, Transaction Publishers: London.
50. Anderson, C.A., D.A. Gentile, and K.E. Buckley, *Violent video game effect on children and adolescents. Theory, research, and public policy*. 2007, New York: Oxford University Press.
51. Feshbach, S. and J. Tangney, *Television viewing and aggression*. Perspectives in Psychological Science, 2000. **3**(5): p. 387-389.
52. Steinberg, L., A. Fletcher, and N. Darling, *Parental monitoring and peer influences on adolescent substance use*. Pediatrics, 1994. **93**(6 Pt 2): p. 1060-4.
53. Brown, B.B., et al., *Parenting Practices and Peer Group Affiliation in Adolescence*. Child Development, 1993. **64**(2).
54. Zimring, F., *American Youth Violence*. 1998, New York: Oxford University Press.
55. Gardner, M. and L. Steinberg, *Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: an experimental study*. Dev Psychol, 2005. **41**(4): p. 625-35.
56. Steinberg, L. and K.C. Monahan, *Age differences in resistance to peer influence*. Dev Psychol, 2007. **43**(6): p. 1531-43.
57. Felson, R., et al., *Is the association between alcohol use and delinquency causal or spurious ?* Criminology, 2008. **46**(3): p. 785-808.
58. Fromme, K., E. Katz, and E. D'Amico, *Effects of alcohol intoxication on the perceived consequences of risk taking*. Exp Clin Psychopharmacol, 1997. **5**(1): p. 14-23.
59. Shepherd, J.P., I. Sutherland, and R.G. Newcombe, *Relations between alcohol, violence and victimization in adolescence*. J Adolesc, 2006. **29**(4): p. 539-53.
60. Hallyday, J., C. French, and C. Goodwin, *Making Punishment Work: Report of a Review of the Sentencing Framework for England and Wales*. 2001, Home Office: London.
61. McGuire, J., *Understanding psychology and crime: perspectives on theory and action* 2009.
62. Kershaw, C., S. Nichols, and A. Walker, *Crime in England and Wales 2007/08*. 2008, Home Office: London.
63. Silvestri, A., et al., *Young people, knives and guns: a comprehensive review, analysis and critique of gun and knife crime strategies*. 2009, Centre for Crime and Justice Studies: London.
64. Whitley, R. and M. Prince, *Fear of crime, mobility and mental health in inner-city London, UK*. Soc Sci Med, 2005. **61**(8): p. 1678-88.
65. Stafford, M., T. Chandola, and M. Marmot, *Association between fear of crime and mental health and physical functioning*. Am J Public Health, 2007. **97**(11): p. 2076-81.
66. Park, A., et al., *British Social Attitudes*. 2009, National Centre for Social Research.
67. Sethi, D., H. Bie, and B. Frerick, *APOLLO Policy briefing: Youth Violence Prevention*. 2008, European Commission
68. Waiton, S., *Scared of the kids: curfews, crime and the regulation of young people*. 2008, Dundee: Abertay University Press.

69. Barnardo's, *The shame of Britain's intolerance of children*. 2008.
70. Heath, L., *Impact of newspaper crime reports on fear of crime: multimethodological investigation*. Journal of Personality and Social Psychology, 1984. **47**(2): p. 263-276.
71. Combs, B. and P. Slovic, *Newspaper coverage of causes of death*. Journalism Quarterly, 1979. **56**(4).
72. Roberts, J.V., *Public Opinion, Crime, and Criminal Justice*. Crime and Justice, 1992. **16**: p. 99-180.
73. -, *Estimating the Impact of the Safer School Partnerships Programme Psychology*. 2006, Centre for Criminal Justice Economics and, University of York.
74. Tversky, A. and D. Kahneman, *Judgment under Uncertainty: Heuristics and Biases*. Science, 1974. **185**(4157): p. 1124-1131.
75. Waters, E.A., et al., *Formats for improving risk communication in medical tradeoff decisions*. J Health Commun, 2006. **11**(2): p. 167-82.
76. Wilson, S.J., M.W. Lipsey , and J.H. Derzon, *The effects of school-based intervention programs on aggressive behaviour: A meta-analysis*. Journal of Consulting & Clinical Psychology, 2003. **71**: p. 136-149.
77. Hardy, M., *Behaviour-Oriented Approaches to Reducing Youth Gun Violence*. Children, Youth, and Gun Violence, 2002. **12**(2): p. 101-117.
78. Botvin, G., *Substance abuse prevention: theory, practice, and effectiveness*. Crime and Justice, 1990. **13**.
79. Lipsey, M.W., *The primary factors that characterize effective interventions with juvenile offenders: a meta-analytic overview*. Victims and Offenders, 2009.
80. Jolliffe, D. and D.P. Farrington, *Examining the relationship between low empathy and self-reported offending*. Legal and Criminological Psychology, 2007. **12**: p. 265-286.
81. Sandford, R., K. Armour, and P. Warmington, *Re-engaging Disaffected Youth through Physical Activity Programmes*. British Educational Research Journal of Adolescence, 2006. **32**(2): p. 251-271.
82. Wager, N., *Positive Activities for Young People in Buckinghamshire: An Evaluation Report*. . 2007, Buckinghamshire County Council.
83. Wilson, D.B., D.C. Gottfredson, and S.S. Najaka, *School-based prevention of problem behaviours: a meta-analysis*. Journal of Quantitative Criminology, 2001. **17**(3).
84. Schaeffer, C.M. and C.M. Borduin, *Long-term follow-up to a randomized clinical trial of multisystemic therapy with serious and violent juvenile offenders*. J Consult Clin Psychol, 2005. **73**(33): p. 445-453.
85. Eades, C., et al., *'Knife Crime' A review of evidence and policy*. 2007, Centre for Crime and Justice Studies: London.