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Aggression and violence pose major problems for forensic mental health services, for the criminal justice system and for society in general. The social and economic costs of violence are immense. Within institutions such as hospitals and prisons, apart from causing injury, psychological harm and stress in patients and staff, violence can contribute to poor morale, staff turnover, job dissatisfaction and the elimination of a therapeutic climate in which patients or prisoners can be assisted to change and to improve their well-being. It has been estimated that violence in healthcare settings has direct costs of at least £69 million per annum in the United Kingdom (National Audit Office 2003; Gadon et al. 2006). Within Wales, which has a population of less than 3,000,000, the Wales Audit Office (2005) estimated the cost of violence to the NHS as £6.3 million between 2003 and 2004. Health care workers and prison officers, in particular, are at high risk of being assaulted in their workplace, compared to other groups of workers (Duhart 2001).

Aggressive and violent acts and the likelihood of future violence are of particular concern for mental health professionals, particularly those working within secure settings and also for those responsible for decision-making about offenders in prisons and community services. Both forensic mental health services and the criminal justice system, despite differences in their core purposes and underlying philosophies, share a responsibility for public protection (Howells et al. 2004a). Developing an understanding of the causal antecedents for aggression and violence, valid methods for their assessment and sound strategies for their modification are necessary conditions for the public protection role and for effective services for patients and offenders themselves within both mental health and criminal justice services. One of the themes to be developed in this chapter is that this task of dealing with violence has been insufficiently grounded in the substantial and long-standing scientific literature relating to aggression and has been excessively focused on psychiatric disorders as causal factors in explaining (and hence dealing with) violent behaviour. (The literature relating to mental disorders and criminality, including violence, is covered in depth by Hodgins in this volume, Chapter 16.)

Locating violence within the broad knowledge-base related to aggression has a major advantage in that aggression theory and research has been a substantial area of activity and provides concepts and empirical findings which can be used in the clinical setting. This state of affairs contrasts with that existing for dealing, for example, with sex offending, where clinical services for offenders
developed largely in the absence of any substantial body of knowledge and concepts about how sexual preferences and patterns of sexual behaviour might develop (see Lockmuller et al., this volume, Chapter 18).

Conceptual and definitional problems

An initial task, which is particularly important in this field, is to define core terms. It is proposed here that it is useful to locate violence within the broader phenomenon of aggression, hence it is necessary to define the latter term as a starting point. It has been estimated that there are more than 200 definitions of aggression in the literature, ranging from Buss's (1961) ‘a response that delivers noxious stimuli to another organism’ to Baron and Richardson’s (1994) ‘any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment’ (Parrott and Giancola 2006). The latter definition will be used in this chapter and has the advantage of excluding unintended acts and harmful acts the victim does not want to avoid (for example, in sadomasochism).

The confusion of aggression with related constructs of anger, hostility and violence is still common (Parrott and Giancola 2006). Anger refers to an internal emotional response, with typical psychophysiological and facial components. Anger, in turn, needs to be distinguished from hostility which refers to the negative cognitive evaluation of people or events. Both anger and hostility can give rise to the behavioural expression of aggression, but need not do so. Some have further distinguished emotional, affective and feelings aspects of anger (see Berkowitz 1999), but these distinctions will not be observed in the present chapter. Aggression, anger and hostility may refer to particular acts or events but may also have a dispositional aspect. An individual may engage in an aggressive act but may not have a general disposition (trait) to act in this way. Equally, hostility may take the form of a particular appraisal or evaluation (‘he just insulted me’) or it may be an ongoing, trait-like evaluation (‘my boss is a pig’). These distinctions are more than academic in that they point to the need for precision in devising clinical measures for assessment of aggression or measures for use in treatment evaluation (Parrott and Giancola 2006).

The distinction between aggression (see above) and violence is largely based on the extent of physical harm inflicted. For Anderson and Bushman (2002), for example, violence is defined as aggression that has extreme harm as its goal and for Blackburn (1993) as the forceful infliction of physical injury. Clearly all acts of violence are aggressive but not all acts of aggression are violent. Verbal insults would generally be viewed as aggressive rather than violent. Prolonged verbal abuse of a child by a parent, similarly, is probably best labelled as aggressive rather than violent in that the harm inflicted is predominantly psychological rather than physical in nature. As such, it is no surprise that the reporting of violence or aggression upon NHS staff has been historically linked with significant problems of definition. Different trusts used different criteria. As so many definitions of violence occurred, making public health initiatives redundant as they relied upon accurate counting of violent incidents, then research also became fraught with difficulties. Consequently, in October 2005,
the National Health Service Security Management Service (NHS SMS) published the first figures based on consistent definitions and this indicated that staff working in mental health and learning disability services faced a higher risk. The DoH directions (Department of Health 2003) introduced a new national reporting system based on legal definitions of physical and non-physical assault. These clarified reporting procedures to ensure a consistent approach. The definition for physical assault, which replaces all previous definitions used in the NHS in England, was:


Violent offending forms a subcategory of violence, referring to acts of violence that contravene the legal code. Although it might initially appear straightforward to define a group of violent offenders (for purposes of service provision or for research) in terms of whether individuals have committed a particular offence, for example an assault, in practice, the process is highly problematic (Kenny and Press 2006). The latter authors point out the considerable behavioural differences that may exist between acts that meet a legal definition such as assault and have stressed the need for a reliable coding system for classifying violent acts and offences. There are wide variations in clinical and research practice, with violent offence/offender status sometimes ascribed on the basis of the index offence alone, at other times on the basis of the whole criminal history, at others on the basis of the predominant (most frequent) offence. Classifications such as ‘violent offence’ often do not discriminate the different levels of severity of violence (Kenny and Press 2006). Furthermore, there are indications that how violent offending is defined and classified affects the reported frequency and the pattern of relationship of violence to other variables (Kenny and Press 2006). There are also potential problems in relying on criminal history alone in determining a person’s level of violence or whether or not they are best described as a violent offender. As Kenny and Press point out, ideally, a formal criminal history would be supplemented by self-report data (itself subject to methodological uncertainties), other records (hospital records, prison files) and other observations.

For the rest of this chapter the term aggression will be used to cover this broad field, with violence being included under this term. Where a particular author or study being discussed has explicitly used the term violence or violent offending, then the original term used is retained. Parrott and Giancola’s (2004) point is well made that the majority of assessments of aggression in clinical settings fail to make the necessary discriminations between different types of aggression and may aggregate behaviours that substantially differ from each other and have no adequate conceptual underpinnings.

The heterogeneity of aggressive acts and aggressive actors

If our aim is to understand the factors that give rise to aggressive acts or aggressive actors then it needs to be acknowledged that both aggressive acts and
aggressive actors are unlikely to be homogeneous categories. Of the many possible distinctions to be made, only a few that are particularly important are discussed here.

**Aggression by males and females**

There is a substantial literature indicating that males are more aggressive than females (Bennett et al. 2005), with recent evidence that the sex difference increases with the increasing seriousness of the aggression. Sex differences are much larger for serious violence in the ‘real world’, where men are the great majority of perpetrators, than in laboratory studies of less serious aggression, though differences in prevalence of aggression for males and females may be less clear-cut for violence between intimate partners (Archer 2000, 2004; Campbell 2006). There are clear indications in the literature that different antecedents may exist for male and female violence and aggression. Although recorded aggression is far more prevalent in males than in females, the prevalence of aggression among females has significantly increased in industrialised countries in recent decades, with a consequent narrowing of the gender gap (Graves 2006). The reasons for this latter phenomenon remain speculative. The important clinical issue is whether aggression and violence serve different functions in males than in females, that is whether the antecedent conditions (variously labelled as risk factors, needs, criminogenic needs, etc.) giving rise to aggression are different and whether the purposes or goals of aggressive acts differ for the two sexes. In an analysis of risk factors, Graves (2006) concluded that the following differences had some empirical support:

- a stronger association of aggression with internalising conditions such as depression in females;
- greater inhibition about aggressive behaviour in females as a result of differential socialisation;
- a stronger association of aggression with physical and sexual victimisation in females, as manifested in high levels of posttraumatic stress disorder (PTSD).

The question of whether sex differences reflect an instigatory difference (a stronger impulse towards aggression in men) or a self-regulatory difference (poorer self-control and higher impulsivity in men) has been addressed by Campbell (2006). Anger is a major instigatory factor (see below) but there is little evidence to suggest a sex difference in levels of trait anger, at least when the measure is of anger experience as opposed to anger expression (Milovchevich et al. 2001). There is some evidence (see Campbell 2006) that males and females may express anger in different ways, suggesting that self-regulatory mechanisms are important and that fear-based inhibition being stronger in females accounts better for sex differences in aggression than do instigatory factors.
Hostile versus instrumental aggression

Hostile (or angry) and instrumental aggression have long been distinguished in the literature. Hostile aggression typically involves a triggering frustrating event, an internal state of emotional arousal and an impulse to hurt or harm the perpetrator of the frustration. In instrumental aggression, on the other hand, the intention is to obtain some reward, usually environmental, and the perpetrator does not show emotional arousal (or cognitions) of an angry sort. A homicide in the course of an angry row provides an example of hostile aggression and the predatory use of aggression to extort money from a cashier at a service station an example of instrumental aggression. Distinctions of this sort are very common in the literature (McEllistrem 2004) though a variety of terms have been used (angry, affective, reactive, impulsive, hot-blooded versus non-angry, predatory, proactive, planned, cold-blooded and so on). The distinction has clearly influenced clinical practice, insofar as patients and offenders who are prone to hostile/reactive aggression are likely to be seen as suited to clinical interventions such as cognitive therapies for anger and emotion regulation (see discussion of treatment approaches below). It is important to acknowledge that the hostile/instrumental distinction refers to the nature of aggressive acts rather than aggressive actors. Thus a particular individual may engage in both hostile and instrumental aggressive acts or engage in only one type.

Despite the pervasiveness of this distinction and its theoretical and empirical support in the literature, it has recently been subject to sceptical critiques, particularly by Bushman and Anderson (2001). These authors question the validity of a rigid hostile/instrumental distinction because such a differentiation is confounded by the fact that controlled (planned) and automatic functioning can occur in both. The notion that anger-mediated (hostile) aggression is impulsive and unplanned is almost certainly wrong, given the importance of angry rumination - the individual may ruminate about the perceived provocation over some time before aggression occurs.

Barratt and Slaughter (1998) have shown that many aggressive acts are difficult to categorise as either hostile or instrumental. Even when acts can be reliably described, it may be a mistake to assume angry or instrumental aggression are reliable traits of perpetrators. Perpetrators may behave in both angry and instrumental ways on different occasions or may have multiple goals and functions for any one aggressive act. This latter possibility is addressed in the functional analytic methodology adopted by Daffern and colleagues (Daffern et al. 2007) discussed in more detail below.

Despite the problems of the hostile/instrumental dichotomy, the presence or absence of anger and other negative emotional states as an antecedent for aggressive and violent acts remains an important clinical issue. Some aggressive and violent acts can clearly occur in a ‘cool’ state of mind and a perpetrator whose acts were always of this sort – for example a ‘Hare psychopath’ (Hare 2006) – would not require forms of clinical intervention predicated on the assumption that heightened anger had lead to impulsive aggression and that angry impulses need to be controlled. Patrick (2006) has recently shown, however, that a complex picture is emerging as to the links between different facets of psychopathy and angry aggression.
Despite the Bushman and Anderson critique, the hostile/instrumental distinction is alive and kicking in many areas of aggression theory and research (see, for example, from a neuropsychological perspective, Blair 2004). Dodge’s influential work on aggression in children and juveniles (Dodge and Coie 1987; Crick and Dodge 1996) similarly is based on a distinction between reactive and proactive aggression, though a mixed group is also identified. The former involves aggression in response to negative emotion elicited by perceived threat and provocation. Proactive aggression, on the other hand, involves no provocation and is motivated by the desire to obtain resources or control over others, to dominate and coerce. Berkowitz and other social learning theorists have also distinguished reactive from instrumental aggression (Berkowitz 1993, 1999), the former being a response to aversive or frustrating stimulation, followed by particular types of cognition.

The existence of two types of aggressive behaviour (that associated with provoking situations and that not so associated) is also emerging in current theory and empirical research on personality and aggression – see below (Bettencourt et al. 2006; Meloy 2006). Observational studies of animals have lead to seven categories of aggression being identified (Moyer 1968) but a distinction similar to hostile versus instrumental appears to have emerged (affective versus predatory violence) in recent animal and neuroanatomical studies (McEllistrem 2004).

The hostile/instrumental distinction in personality disorders

The hostile/instrumental distinction has relevance to personality disorder. It would appear likely that psychopathy (Hare 2006) would be associated more strongly with instrumental than with angry aggressive acts, given the ‘cold’, affectless nature of psychopathic individuals (Hare 2006). Cornell et al. (1996) compared violent offenders who had committed at least one instrumental offence with those with a history of reactive violent offences. In both the samples studied the two violent groups could be distinguished on the basis of their Hare Psychopathy score. Such studies have clear implications for treatment interventions, suggesting that the instrumentally violent psychopath has no need for anger interventions, requiring, perhaps, to learn to overcome their inhibitory deficits and related impairments in moral development (Blair 2006).

We know little, however, about types and patterns of aggression in other personality disorders such as antisocial personality disorders (APD). On the basis of their clinical descriptions, borderline personality disorder (PD) would be expected to be associated with angry, impulsive aggression, as would paranoid PD, though the author is not aware of any studies testing such hypotheses. The clinical features of paranoid PD mirror those cognitive characteristics shown to be associated with hostile aggression in other populations, for example the tendency to over-attribute hostile and malevolent causes (to others) for negative social events. Similarly the association between the trait of narcissism and angry aggression (cf. ‘narcissistic rage’) in general populations (Bettencourt et al. 2006) would suggest that hostile aggression would prevail in narcissistic PD, albeit with distinctive triggers, namely threats to self-esteem. For a review of links between personality disorders and anger, see Howells (in press).
Factors contributing to aggression

Social learning has been extensively studied and widely accepted as important in the causation of aggression. Imitation (observing acts of aggression) and vicarious reinforcement (perceiving aggression to be rewarded) are important mechanisms (Bandura 1977) as are broader mechanisms involved in the learning of aggressive scripts during childhood and adolescence (Huesmann and Miller 1994). Social learning theorists have devoted much effort to evaluating the effects of exposure to violence on television as a determinant of subsequent aggression. In broad terms, the evidence for such an effect is consistent and convincing, based on aggregate-level and individual-level studies, using cross-sectional, longitudinal, experimental and quasi-experimental methodologies. Questions of temporal order and causality in effects are difficult to address. The main reservation about this literature, from the clinical perspective of this chapter, is that expressed by Savage (2004) in an exhaustive and critical review of published work. Savage argues not only that methodological inadequacies exist that make definitive conclusions impossible but also that the dependent variables in many studies are forms of relatively minor aggression, rather than the serious acts of criminal violence which are more relevant to the present volume.

Triggering events and situations

Even for highly aggressive individuals, aggressive acts are not random but are typically responses to particular events and situations in the life of the perpetrator. It has been demonstrated that events eliciting aggression have particular features. Hostile or angry aggression, for example, is typically elicited by events that are aversive for the individual, often constituting situations of frustration in which the person is blocked in achieving important goals or where expected rewards fail to eventuate (Berkowitz 1999).

The availability of weapons is a potentially important situational trigger for violence, with evidence that weapons differ in their lethality, guns being more lethal than weapons such as knives (Hepburn and Hemenway 2004). There are considerable methodological difficulties with studies in this area creating a host of confounding factors and making it difficult to say with total confidence that the established and consistently reported association between gun ownership and acts of serious violence such as homicide is causal, though a causal interpretation is consistent with contemporary psychological models of violence (Anderson and Bushman 2002).

In an extensive analysis of links between gun ownership and gun-related homicide, Hepburn and Hemenway (2004: 438) concluded: ‘most studies, cross-sectional or time series, international or domestic, are consistent with the hypothesis that higher levels of gun prevalence substantially increase the homicide rate’. Far fewer studies exist in relation to the availability of knives, which are the most commonly used weapons in the United Kingdom context. A literature does exist on situational factors in intimate partner violence, though it is acknowledged that detailed analysis of violent situations has been a neglected area (Wilkinson and Hamerschlag 2005). One way of understanding situational influences on aggression is that these factors may contribute to the breakdown of normal self-regulation skills (Baumeister et al. 1994).
In any event, assessment of aggression-eliciting situations, including actual or likely access to a weapon (for example, carrying a knife) and beliefs about weapon use, are likely to be as important a task for the forensic clinician as are more commonly accomplished assessments of angry emotions, mental state and aggressive personality traits.

**Cognitive factors**

Since the advent of the 'cognitive revolution' in psychology, particularly in clinical psychology, disordered emotions and behaviour have been increasingly viewed as, in part, the product of biases in the appraisal and construction by the person of the events to which they are exposed. Such a model has also proved relevant to understanding aggressive behaviour. For example, Crick and Dodge's (1996) model of the development of aggressive and antisocial behaviour in young people draws attention to the social information processing and other cognitive biases that are associated with aggression and violence, including biases in social attribution for negative events and attentional, goal-setting, problem-solving and representational deficits. Crick and Dodge (1996) have identified attributions of intent to harm as aggression-eliciting in reactively aggressive children. Cognitive biases also appear to associated with high anger in the general population (Hazebroek et al. 2001). The cognitive elicitation of hostile aggression involves a number of necessary components, including the initial obstruction of the person in achieving a personally significant goal (motivational relevance of the triggering event), the appraisal that an external agent is responsible and blameworthy and the judgment that the offensive act violates some personal, moral imperative, constituting an 'is-ought discrepancy' (Berkowitz and Harmon-Jones 2004; Hazebroek et al. 2001; Ortony et al. 1988). Appraisal that the provoking 'offence' by the other person can be effectively coped with and eliminated may also be important if anger rather than fear or sadness is to occur (Berkowitz and Harmon-Jones 2004). Subtle and indirect methods for assessing such cognitive processing biases in aggressive populations are beginning to emerge (Smith and Waterman 2003, 2004) and it is likely that this area of assessment will develop substantially in the near future.

**Empathy**

*Empathy deficits* have also been implicated as possible causal influences for offending in general and for aggressive offending in particular. Most typically, the implied mechanism for this association is a failure of emotional inhibition of aggressive acts. The non-empathic person is assumed to fail to learn to inhibit criminal or aggressive acts, because the punishing consequences of the acts (distress elicited by observing the negative effects of the acts for others) fail to occur. Empathy is a complex, multi-faceted phenomenon and, thus, empathy deficits may involve a number of different psychological processes, ranging from a perceptual failure to observe the distress at others, to a cognitive failure to take the perspective of others (Mohr et al. 2007), to an affective failure to experience distress at the suffering of others or a behavioural failure to act on the empathic responses that have been elicited. Jolliffe and Farrington (2004) have reported a meta-analytic investigation of the links between the cognitive and affective...
aspects of empathy and offending. These authors found a stronger negative relationship between cognitive empathy and offending than between affective empathy and offending and provided some support for the notion that empathy deficits are stronger in violent than in sexual offenders.

**Affective and emotional states**

As indicated above, the effects of cognitive processes, particularly appraisal, have dominated our understanding of hostile aggression in the past two decades and such domination has inevitably influenced thinking about the appropriate focus and content for therapeutic interventions. Cognitive behavioural therapy, the most common therapeutic approach, sits comfortably with theories which emphasise the role of cognition. Arguments have been put forward, however, that cognitive factors have been over emphasised in theoretical analyses (Berkowitz and Harmon-Jones 2004). Berkowitz (1993, 1999), one of the most influential psychological theorists in the field of anger and aggression, has argued, and produced evidence to demonstrate, that it is the aversiveness of the provoking event that elicits hostile aggression rather than the cognitive appraisals discussed above. Cognitions are important, from this sceptical point of view, to the extent that they make the event more aversive. Aversive events (pain, frustration, social stressors) are seen as inducing an initial state of negative affective arousal which subsequently becomes differentiated into specific emotions, such as anger or fear, depending on higher order cognitive and other processes, including other features present in the environment and body states of the person. The emphasis on negative affect as an elicitor of aggression is congruent with studies of personality and aggression (see below).

Such models have therapeutic implications, suggesting that the therapeutic strategy for reducing such acts of aggression should be broader than attempting to modify distorted cognitive appraisals. Interventions would seek to reduce the aggressive person’s exposure to aversive events, to reduce the aversiveness of these events where feasible (for example through modifying the person’s psychophysiological state) and to improve the person’s capacity to regulate and control their negative affective arousal. Given the reciprocal relationship between environments and the person (environments shape our behaviour but we also create our environments through our own behaviours) then an obvious therapeutic strategy would be to enable aggressive individuals to change aspects of their social behaviour so as to reduce their tendency to produce aversive environments and to augment their capacity to produce positive environments.

Many traditional rehabilitative activities (enhancing work skills, improving education) can be construed as methods for enhancing the valence or affective tone of the experienced environment. Such an approach is also consistent with the ‘Good Lives Model’ (Ward et al. 2006) which provides a theoretical basis for many contemporary rehabilitation and treatment approaches in forensic settings (see Lockmuller et al., present volume, Chapter 18).

**Anger**

The specific emotional state most frequently identified as an important antecedent for aggression has been anger (Howells 1998, in press; Novaco 1997;
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Novaco et al. (2001). Anger is neither a necessary condition for aggression (aggression can occur without anger) nor a sufficient condition (anger can occur without aggression following) but is viewed as a contributing factor when other environmental and intrapersonal conditions are present. Anger theory (Howells 2004; Novaco and Welsh 1989) has been useful in specifying important components of anger, particularly cognitive components that may be causally significant for aggressive behaviour. The distinction (above) between trait and state aspects of anger is important. The aggressive person may or may not have high trait anger, as assessed by a psychometric test. Even where trait anger is only average it may nevertheless be the case that the state of anger may have been critical in the pathway that led to an aggressive act (Howells et al. 2004b).

**Behavioural inhibition, coping and self-regulatory skills**

Whereas most of the factors discussed so far are of an instigatory nature (frustrating events, biased appraisals, negative emotions, etc.) it is possible that the difference between aggressive and non-aggressive individuals, and between occasions on which an individual behaves aggressively as opposed to ones in which he does not, lie in subsequent self-regulatory rather than instigatory processes. The concept of self-regulation has some overlap with the concept of inhibition and also with (low) impulsivity. Both inhibition and impulsivity are emerging as highly relevant to aggression but also as complex, multi-faceted constructs (Campbell 2006; Polaschek 2006; Wang and Diamond 1999).

Self-regulation and inhibition of aggressive impulses has become a significant area for neuropsychological investigation (Blair 2004; Davidson et al. 2000) with a particular focus on the orbitofrontal and ventromedial cortices (Raine 2002; Raine et al. 1997). Self-regulatory skills are discussed further below in the section on overcontrol.

**Personality variables**

As briefly described above, aggressive behaviour will be influenced by both situational and intrapersonal variables, both proximal and distal (historical). Some intrapersonal factors will be dispositional in character, that is they are enduring dispositions of the person or traits. The territory of long-term dispositions of this sort is usually labelled as personality. The important question is which personality variables, if any, influence aggression? Given the different types and patterns of aggression, as outlined above, the question might be more appropriately stated as which personality variables influence which types of aggression? A number of methodologies have been used to attempt to answer this question. These range from experimental laboratory studies in which, for example, aggression is defined in terms of delivery of electric shocks to another person to field surveys and to clinical observational studies. Each methodology has its strengths and limitations. Fortunately, a broadly similar pattern of findings has emerged across methodologies (Bettencourt et al. 2006).

In an important theoretical review and meta-analytic investigation Bettencourt et al. (2006) have tested the hypothesis that some personality variables influence aggression under both neutral and provocative conditions while others influence aggression only under provocation. Among the personality
traits shown in their review of empirical work to be influential for aggression in the presence of a provocation were trait anger (defined by intensity, frequency and duration of anger reactions), type-A personality, rumination, narcissism and impulsivity. On the other hand, trait aggressiveness (a composite propensity to engage in hostile cognition, physical and verbal aggression and anger expression) and irritability influenced aggression under both neutral (no provocation) and provocation conditions.

The work of Bettencourt and colleagues has important potential clinical implications, indicating as it does that being anger-prone, a ruminator about bad events, narcissistically vulnerable to threats to self-esteem and a poor regulator of impulses require an interaction with provoking and frustrating circumstances if these traits are to influence the probability of aggressive behaviour occurring. In clinical treatment programmes for perpetrators of aggression and violence (such as the DSPD programme in England and Wales, Howells et al. 2007), risk and clinical assessments would need to include the personality traits identified by Bettencourt and colleagues (the clinical relevance of such traits would be recognised by clinicians in the field) but would also need to accommodate the fact that that provocation exposure is required. The probability and nature of provocations in the person’s current and future social environment would also need to be assessed (see above).

This emphasis on the experienced environment is critical in the functional analytic approach to assessment discussed below, with its focus on determining the eliciting event for an aggressive act and also its purpose or function (Daffern et al. 2007). Functional analysis is also based on the premise that what constitutes a provocation will vary and that ‘signature’ eliciting events and goals need to be identified for the individual (Mischel 2004a).

Bettencourt et al. (2006) summarise their findings in terms of provocation sensitive and aggression-prone personality traits. Individuals with high scores on the latter, they suggest, have the capacity to be aggressive in the absence of provocation and demonstrate a ‘cold-blooded style of aggressive behaviour’ whereas the former exhibit a more hot-blooded style.

Five-factor model

Contemporary personality theory has been dominated for some years by the Five Factor Model of personality (McCrae and Costa 1987), so it is relevant to ask where the provocation-sensitive and aggression-prone traits lie within the five-dimensional space. Bettencourt et al. (2006) suggest provocation-sensitivity is associated with the Neuroticism dimension and aggression-prone traits with antagonism (low Agreeableness).

Psychopathy

Among the personality variables best correlated with violence in mentally disordered and non-disordered groups is Psychopathy, as typically measured by the PCL-R (Hare 2006). Hare has argued that Psychopathy is a robust risk factor in a range of forensic populations, including adult male offenders, adult female offenders, adolescent offenders, forensic psychiatric patients, including those with Axis 1 disorders, and civil psychiatric patients (for a listing of detailed studies see Hare 2006).
Skeem et al. (2005) addressed the issue of whether psychopathy per se best predicts violence or whether it is the higher order personality variables tapped by psychopathy scale items. Using a sample derived from the larger MacArthur Risk Assessment Study (Monahan et al. 2001), Skeem et al. (2005) found that the Five Factors model measures (NEO-Five-Factor Inventory) were postdictive of violence in the mentally disordered, with Antagonism and Neuroticism being the strongest correlates of violence (cf. the conclusions of Bettencourt et al. 2006 above). Antagonism was shown to have moderate positive correlations with psychopathy variables, particularly Factor II. Such studies confirm the relevance of general personality variables, such as antagonism, in violence prediction. As Skeem et al. suggest, ‘one can easily imagine how antagonism might predispose someone to violent transactions with others’ given that ‘antagonism is a highly interpersonal construct that includes such traits as suspicousness, combativeness, deceptiveness, lack of empathy and arrogance’ (2005: 461). It might be added that Antagonism, as defined here, is a complex and multi-faceted construct, including as it does behavioural, cognitive and affective processes. Skeem et al. (2005) draw attention, in particular, to cognitive biases (cf. Crick and Dodge 1996) which engender hostile aggression as possibly particularly important factors. Thus personality-based theories of this sort are congruent with broader models of anger and anger control which have become so influential in the treatment of aggressive offenders (see below). It should be noted that empirical findings relating to correlates of violence are likely to be dependent on the characteristics of the specific population being studied. The MacArthur sample referred to above, for example, included only a minority of severely mentally ill persons, with a large proportion of drug addicts and depressed addicts.

**Overcontrol**

It will be apparent from the above discussion that negative emotion, particularly angry emotion, is a critical variable in contemporary psychological explanations of aggression and violence, at least for the provocation-based form of aggression. It is for this reason that cognitive behavioural therapy for anger (‘anger management’) has become one of the most prevalent forms of intervention for perpetrators of aggression. This treatment approach is discussed in detail below. The picture painted of the aggressive individual by the research of Bettencourt and many others and by accounts of therapeutic programmes is of someone who is easily moved to anger and aggressive impulses (anger is of high frequency, intensity and duration) and who is impulsive and deficient in the control and regulation of such emotions and ‘action tendencies’. Such an individual needs, clearly, to acquire self-regulatory and inhibitory skills, the latter forming a major component of many treatment programmes. While this characterisation would be accurate for many perpetrators of violence, there are several groups for whom it is inaccurate, among whom would be the ‘overcontrolled’ aggressor (Davey et al. 2005).

It is commonly observed clinically that some aggressive offenders have personality characteristics opposite to those of the high anger, high impulsivity individual. Tsytserov and Grodnitsky (1995), for example, have described what they refer to as ‘prolonged’ anger arousal and an ‘accumulation of affective
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tension which turns into an explosion of anger and rage, and is usually accom­
panied, or preceded, by intense feelings of humiliation and despair' (p. 104).
Such individuals, it has been proposed, may normally have high inhibitions 
about anger experience and expression, hence the 'overcontrolled' (versus 'undercontrolled') description. This group has received some, though not extensive,
attention in empirical studies (Megargee 1966; Blackburn 1971, 1993; Lang 
et al. 1987). Davey et al. (2005) have proposed that the overcontrolled aggressive 
offender type falls into two sub-types, distinguishing the phenomenologically overcontrolled offender, who does not report either anger-eliciting cognitions or 
angry emotional arousal following exposure to a frustration, from the behaviourally overcontrolled individual, who may experience intense anger, ruminate on and rehearse grievances but strongly inhibits behavioural expression (a distinc­tion resembling Blackburn's (1986, 1993) conforming and inhibited types).
The work on overcontrol is important in that it, again, illustrates the hetero­
genity of aggressive offenders and also identifies self-regulatory strategies as 
vital in understanding aggression, particularly for hostile aggression (above).
The overcontrol phenomenon has clear implications for forensic clinical prac­tice and for treatment strategies, including issues of readiness for treatment 
(Howells and Day 2003; Ward et al. 2004), treatment targets and the assessment 
of risk (Davey et al. 2005). A major lesson to be derived from theoretical models 
such as those of Gross (2002) is that treatment needs to increase the flexibility 
and variety of self-regulatory strategies used by the aggression perpetrator.
Before leaving the topic of personality traits that may be related to aggres­sion, the limitations of the personality approach need some comment. The work 
on personality and aggression is, by definition, focused on enduring traits and 
dispositions of the person. There exist in personality theory long-standing and 
influential critiques of the very notion of a trait that exists across time and 
across situations (Mischel, 1968; 2004a, 2004b) which draw attention to the 
importance of state (that is non-enduring) factors within the person, such as 
day-to-day variations in emotions or cognitive appraisals, and to temporary situational factors that have an influence. Central to such work is the notion of the person-situation interaction (Mischel 2004a, 2004b) As suggested above, a balanced approach may be required in the clinical setting, with a fuller recognition 
of state, situational and interaction effects (discussed below).

Other influences
Space does not allow for a full discussion in this chapter of all the many vari­ables shown to be important to aggressive and other antisocial behaviours. Substance misuse may be highly relevant as a causal influence (discussed by 
McMurran in this volume, Chaper 17) as are neurophysiological processes iden­tified as relevant to psychopathy, personality disorder (discussed by McMurran 
in this volume, Chapter 15) and mental disorders (discussed by Hodgins in this 
volume, Chapter 16).

What is clear from the above discussion is that a wide range of person and situational variables influence human aggression and violence. Each of the domains discussed has been the subject of domain-specific theories. In addition 
there have been attempts to provide broad models which try to integrate find­ings and provide a broader framework, one which might form the basis for a
comprehensive approach to the prevention and treatment of aggression. An influential example of broader model building is that provided by Anderson and Bushman (2002) in their General Aggression Model (GAM).

**General Aggression Model**

The GAM tries to integrate cognitive, affective, psychophysiological, behavioural, situational and personological variables. Person factors include personality traits, attitudes, beliefs, genetic and neurophysiological dispositions, schemata, behavioural scripts and what the authors label 'knowledge structures'. Some of these factors will be dispositional in nature while others are state rather than trait variables. Situational factors identified by Anderson and Bushman include aggressive cues (for example, presence of weapons), provoking and frustrating events in the environment, ingestion of alcohol and other drugs and environmental incentives to aggress.

The relevant internal states (cognition, affect and arousal) are interconnected and influence subsequent decision-making and behavioural expression. Bushman and Anderson make the point that most contemporary attempts to treat or prevent aggression 'do not address the wide range of factors that contribute to the development and maintenance of violent behaviour' (2001: 45) but suggest that approaches such as multisystemic therapy are consistent with broad analyses of causation (Henggeler et al. 1998).

**Functional analytic approaches to assessment**

The notion that aggression and violence may have multiple goals for the individual has already emerged in personality theory (Bushman and Anderson 2001; Bettencourt et al. 2006) but until recently has had little influence on clinical practice. In their work with aggressive psychiatric patients in high-security settings, Daffern and others (Daffern and Howells 2002; Daffern et al. 2007) have proposed an assessment framework for analysing the functions (goals) of a particular act of aggression, acknowledging that multiple goals may be present for any particular act and that perpetrators may have different goals for different acts. Aggressive acts are common in some forensic mental health units, particularly high-security institutions (Daffern 2007), as well as constituting one of the most frequent reasons for admission. What factors influence the occurrence of such acts is still poorly understood, but they are likely to include mental disorder variables, as well as social and psychological factors, the latter including those of a dispositional (long-term personality traits of the perpetrator) and of a situational nature (variations in the external environment and in the cognitive, affective and behavioural state of the individual).

Functional assessment approaches (Daffern and Howells 2002; Haynes and O'Brien 1998; Sturmey 1996) seek to clarify the factors responsible for the development, expression and maintenance of the patient's problem, in this case acts of aggression. There is a particular emphasis on identifying the antecedent conditions giving rise to the behaviour and to the consequences, that is the functions the behaviour serves for the perpetrator. Daffern et al. (2007) have devised the 'Assessment and Classification of Function' assessment (ACF), derived from the
Aggression and violence

literature on the various functions of aggression, but applied, in this case, to the mentally disordered aggressive offender in a secure hospital. The functions included in the ACF are:

1 Demand avoidance. In response to demands by staff or other patients to cease or engage in an activity.
2 To force compliance. Following denial of a request.
3 To express anger. Following perceived provocation.
4 To reduce tension (catharsis). Arousal reduction.
5 To obtain tangibles. Obtain social or psychological reinforcers.
6 Social distance reduction (attention-seeking). From staff or other patients.
7 To enhance status or social approval. In response to humiliation or threats to reputation.
8 Compliance with instruction. Command auditory hallucination or overt instruction from another.
9 To observe suffering. Enjoying suffering, in absence of provocation.

In a study of 502 aggressive incidents in a high-security forensic hospital, Daffern et al. (2007) found that anger expression was the most frequent function but that functions differed for aggressive behaviours towards staff and those towards patients. Demand avoidance was a common function for aggression towards staff but rare for aggression towards patients. To obtain tangibles (an instrumental function) was rare for both types of incident. In an extension of the ACF to violent personality disordered patients in a high-secure setting (Daffern and Howells in press), two further categories of function have been added to the original nine functions, namely ‘sensation seeking’ and ‘sexual gratification’ to capture apparent sexual/sadistic functions occasionally occurring in this very high-risk population.

A major reason for identifying functions for aggression in this way is to suggest intervention strategies. These are likely to take the form of encouraging alternative strategies for obtaining the functional goal or to change conditions in such a way that the need to pursue the problematic goal is reduced (for examples of strategies for each goal, see Daffern et al. 2007). There is a need to extend such analyses to other (non-psychotic) forensic populations, including those with personality disorders and non-mentally disordered violent offenders in the criminal justice system, which would allow for comparing the functions of aggression in these different groups and settings.

Assessment and treatment issues

In many developed criminal justice systems across the world, the treatment and rehabilitation of offenders have undergone a revolution in the last 20 years. The so called ‘Nothing Works’ era has progressively given way to an era of moderate confidence that well planned interventions following established theoretical and empirically supported principles are capable of producing significant, if modest, change in offenders, particularly in relation to recidivism rates (Hollin 2001; Hollin and Palmer 2006; Howells, Day, Williamson et al. 2005; McGuire 2002, 2004). This ‘movement’ and literature have acquired various labels, including ‘What Works’ and the RNR (Risk/Needs/Responsivity) approach
The RNR model suggests that determination of risk (particularly of future violence and sexual offending), identification of the individual’s criminogenic needs and ensuring programme responsivity (matching of treatment programme content and style with characteristics of the treatment participant) are core tasks in the treatment and rehabilitation of offenders and essential in recidivism reduction (Andrews and Bonta 2003).

The RNR model is highly relevant to offenders with histories of aggression and serious violence. As aggressive offenders, like sex offenders, are likely to be perceived as presenting a greater risk of harm to the community should they reoffend than, for example, property offenders, it would be expected that aggressive offenders would feature strongly in offenders identified as needing treatment under the risk principle. The criminogenic needs principle would require that the criminogenic needs of aggressive offenders be the major targets for treatment interventions, that is treatment should focus on factors demonstrated empirically to be causally or functionally related to their aggressive and violent behaviour.

There are two categories of criminogenic needs in such offenders. Aggressive offenders will share many criminogenic needs with other offender types (for example, impulsivity or having peers involved in criminal behaviour) in that many offenders are generalists rather than engaging in only one type of offending. However, they will also have criminogenic needs specific to their aggressive acts. The diverse variables discussed in previous sections of this chapter constitute some of the potentially relevant areas of criminogenic need in aggressive offenders, including environmental, cognitive, affective and behavioural factors. The Responsivity principle is not discussed in depth at this point but will be alluded to below when readiness for treatment is addressed.

The purpose of risk assessment in the RNR model is to ensure that those of highest risk are offered the most intensive treatment, with the corollary that those of low risk may require little or even no treatment resource to be dedicated to them. The development and implementation of risk assessment has become a major activity and high risk status is central to admission to some forensic services in the forensic mental health system and to some therapeutic programmes within the criminal justice system. In the recently developed DSPD services in England, for example, to be admitted the offender must be shown to pose a high risk, in combination with meeting other criteria (Howells et al. 2007). Risk assessment is discussed elsewhere in this volume (see Chapter 10 by Doyle and Dolan) so comment will be restricted here to only two issues that are relevant to how we conceptualise and treat aggression and violence.

The first relates to the need not to rely exclusively on dispositional, interpersonal variables in the explanation of aggression. As briefly described above, the bias to over-attribute causality for observed behaviour to internal dispositional factors is well known within psychological theory and research, particularly that related to attributional processes. Although the extreme situationist position has generally been rejected in contemporary psychology, the importance of situational variation and of the interaction between the person and the situation is well recognised (Mischel 2004a, 2004b).

The need for dynamic risk measures (risk state as opposed to risk status) has been well described and analysed by Douglas and Skeem (2005). Exclusive
reliance on static and trait variables in determining risk and criminogenic needs in forensic patients and offenders diminishes the clinical formulation of the case and the comprehensiveness and relevance of the therapeutic strategies adopted. This is not to deny that some causal factors for aggression are stable and enduring aspects of the person that are present from an early age (see, for example, the discussion by Hodgins of Type 1 aggressors in Chapter 16 of this volume).

As discussed by Douglas and Skeem (2005), risk state variables for aggression and violence are dynamic (capable of change) and comprise factors that can be demonstrated to affect the probability of an aggressive act occurring, with an emphasis on variation over time in violent behaviour. Thus an individual patient’s aggression might be demonstrated to be more likely to occur, for example, when their internal state is one of emotional agitation, angry resentment, disinhibition through ingestion of alcohol and preoccupation with cognitions that they are being ‘humiliated’ by the provoking agent. Relevant state factors also lie within the violent situation (the behaviour of others, the setting, etc.).

As will be apparent, the focus on state risk is congruent with the functional analytic approach described above (Daffern and Howells 2002; Daffern et al. 2007). Douglas and Skeem (2005) have described assessment methodologies for state assessments. Ogloff and Daffern (in press), for example, have devised the DAST for 24-hour prediction of the probability of an aggressive incident, based on an ongoing assessment by nurses of the risk state of the individual patient. Douglas and Skeem’s analysis of state risk variables plausibly related to violence includes those listed in Table 14.1.

**Table 14.1 Proposed dynamic risk factors for violence**

<table>
<thead>
<tr>
<th>Impulsiveness</th>
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<td>Negative affectivity</td>
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<tr>
<td>Anger</td>
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<tr>
<td>Negative mood</td>
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<tr>
<td>Psychosis</td>
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<tr>
<td>Antisocial attitudes</td>
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<td>Substance use and related problems</td>
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<tr>
<td>Interpersonal relationships</td>
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<td>Treatment alliance and adherence</td>
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<tr>
<td>Treatment and medication compliance</td>
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<td>Treatment-provider alliance</td>
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</table>

*Source: Douglas and Skeem (2005).*

**Treatment programmes for aggression and violence**

Given that aggression is an important contributor to risk, it is unsurprising that treatment programmes for aggressive offenders have been developed around the world. It is surprising, however, that the treatment of aggression appears to lag behind the treatment of sex offenders (see Lockmuller et al. this volume, Chapter 18) in terms of the scale and extent of programme delivery, the degree of sophistication shown in the construction of programmes and in the extent of
empirical evaluation of the effectiveness of the programmes. Given the high societal impact of violence it is puzzling that the treatment of violence has received so little attention, particularly in forensic mental health settings (Howells et al. 2004a).

Polaschek and colleagues in New Zealand have described, reviewed and critically evaluated violence programmes across the world (Polaschek 2006; Polaschek and Collie 2004; Polaschek and Reynolds 2001) as have Serin and Preston (2001) in the Canadian correctional setting. Polaschek’s (2006) review describes the wide range of therapies that have been implemented, including intimate partner violence programmes, pro-feminist group programmes, cognitive-behavioural interventions, counselling approaches, anger management, aggression-replacement training, multisystemic therapy, psychopathy programmes and others. Such authors have generally concluded that, as yet, there is insufficient evidence available to determine the effectiveness of these programmes.

Treatment programmes with aggressive and violent individuals may face particular challenges which will need to be overcome if treatment is to be effective. Low readiness for treatment and consequent low treatment engagement, for example, have been identified as problematic in treatment interventions for these populations and such factors are likely to diminish treatment effects unless addressed (Howells and Day 2003, 2006; Howells, Day, Williamson et al. 2005; Ward et al. 2004).

Cognitive behavioural treatment for anger appears to be one of the most widely delivered interventions for violent offenders. While anger treatment is well grounded in theories of aggression and has convincing supportive evidence from meta-analytic reviews (Del Vecchio and O’Leary 2004; DiGiuseppe and Tafrate 2003), it remains to be shown that it is an effective treatment for aggressive and violent offenders, as opposed to being effective for other populations with anger problems (Howells, Day, Williamson et al. 2005). The critical evaluation of the effectiveness of aggression and violence programmes, using adequate control groups and using randomised controlled trials or similar experimental designs (Davies et al. 2007) is a vital task for the future.

It could be argued that few, if any, of the treatments currently available address aggression and violence in the wide-ranging and comprehensive way that the considerable literature on aggression (some of which is reviewed in this chapter) suggests is necessary. The demonstrated heterogeneity of aggressive acts and actors, as indicated in this chapter, is also rarely addressed in devising therapeutic interventions. It is to be hoped that greater integration of aggression theory with treatment and rehabilitation practice and research, in both criminal justice and forensic mental health settings, will enhance our capacity to intervene effectively to reduce aggression and violence in the next decade.

Conclusions: the future

A recent comprehensive review of different types of violence within different populations by the WHO entitled World Report on Violence and Health concluded that:
Violence is often predictable and preventable ... certain factors appear to be strongly predictive of violence within given populations, even if direct causality is sometimes difficult to establish. These range from individual and family factors such as impulsivity, depression, poor monitoring and supervision of children, rigid gender roles and marital conflict to macro level factors, such as rapid changes in social structures and sharp economic downturns, bringing high unemployment and deteriorating public services. There are also local factors, specific to a given place and time, such as an increased presence of weapons or changing patterns of drug dealing in a particular neighbourhood. (WHO 2002)

In essence, we do not have a single model of violence causation; therefore, all models of violence reduction need to be considered in each individual case.

One important issue for the future is whether current psychiatric models and taxonomic systems adequately address problems of aggression and associated, cognitive, affective, self-regulatory and environmental factors. Without any doubt, acts of aggression and violence are major causes of distress for other people in the environment of perpetrators, and for society as a whole. Aggression and violence are also likely sources of distress for at least some perpetrators themselves, particularly those whose aggressive acts follow the breakdown of normal self-regulatory processes, particularly in relation to anger.

In this sense (distress caused to others and to the self) aggression problems sometimes meet the underlying, fundamental criteria of psychiatric disorder in systems such as the DSM. At present, anger and aggression problems receive scant attention within the DSM and similar systems, though intermittent explosive disorder and some of the personality disorders, particularly borderline personality disorder, do include some reference to problems of aggression.

A second issue is the need for convergence of mental health and psychological/behavioural models (Howells et al. 2004a). It will be apparent to the reader that large sections of this chapter are devoted to the psychology of aggression, a field of academic and applied inquiry which is substantial, has a long history and has involved some of the most distinguished researchers and theoreticians in the history of psychology. Other sections of the chapter have been concerned with aggression in psychiatric disorders, in mental health institutions, personality disorders and in those requiring psychological or psychiatric treatment. These two literatures are still largely separate.

The reference point for mental health professionals and researchers in understanding aggression and violence appears often, arguably too often, to be what is known about disorders and mental illness rather than what is known about the causes, modification and prevention of aggression. The blame for this lack of mutual understanding and influence lies, arguably, in part with those working in the mainstream psychology of aggression, who have, perhaps, been slow to go beyond the laboratory walls and to observe aggression and violence at the clinical coalface. Conversely, mental health practitioners, despite disavowal of subscribing to the 'medical model', may be inclined to focus excessively on the accompanying disorder. Psychiatric and other clinical observations about aggression and violence in patients in mental health settings need to be plotted onto existing psychological models of aggression.
Selected further reading


References


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