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Aggression

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KEY CONCEPTS

aggression
Aggression Questionnaire
aggressive cues
aggressive scripts
anger management training
bullying
catharsis
cognitive neo-associationist model
Conflict Tactics Scales
displaced aggression
excitation transfer
frustration-aggression hypothesis
general aggression model
geographic regions approach
habituation
heat hypothesis
hostile aggression
hostile attribution bias
instrumental aggression
intimate partner violence
media violence–aggression link
modelling
peer nominations
post-traumatic stress disorder
sexual aggression
steam-boiler model
time periods approach
trait aggressiveness
weapons effect



CHAPTER OUTLINE

This chapter presents an introduction to social psychological theory and research on aggression. After a brief discussion of how to define and measure aggression, we review the main theories of aggressive behaviour. This is followed by an analysis of individual differences in aggression and the role of situational variables, such as alcohol and high temperature, in eliciting aggressive behaviour. Special attention is devoted to the impact of violent media content on viewers' aggressive tendencies. In the second part of the chapter, different forms of aggression in society are examined, such as family violence, sexual aggression, and both school and workplace bullying. The chapter concludes with a review of strategies designed to reduce and prevent aggression.

Introduction

Three-year-old Karolina had a short and sad life. She was found dying in a hospital toilet in 2004, dumped there by her mother after months of torture and abuse from the mother's new partner. The list of his atrocities brought to light during the court case included tying her to a chair for hours on end, smashing a telephone over her head, and stubbing out a burning cigarette on her arm and then putting muscle warming cream on the burns to increase the pain (*Der Tagesspiegel* [German newspaper], 13 April 2005).

In April 2002, Germany was shocked by an unprecedented school shooting in which 17 people, including the assailant, were killed. It was soon established that the 19-year-old killer, a former pupil at the school who had been expelled some weeks prior to the attack, had not only been fascinated by firearms but had also spent much of his time playing violent electronic games (BBC News, Friday, 26 April 2002).

These two examples highlight the upsetting but undeniable fact that aggression as a destructive form of social behaviour is prevalent in human interactions on a large scale. Aggression permeates close relationships (e.g., child abuse and intimate partner violence), workplace interactions (e.g., bullying), intergroup relationships (e.g., gang violence and racially motivated aggression) and contacts between large-scale ethnic or political groups (e.g., international warfare). Therefore, social psychologists' concern with understanding the processes that trigger, intensify or suppress aggressive behaviour is by no means a purely scientific one. Instead, it is motivated by the aim to create a knowledge base from which we can develop interventions to reduce and prevent aggression.

The review of social psychological aggression research offered in this chapter is guided by five key questions:

- 1 How do social psychologists define aggressive behaviour and what are their main methods for studying it?

- 2 What are the major theories that explain why people engage in aggressive behaviour?
- 3 What are the crucial variables, both in the person and in the situation, that make aggressive behaviour more likely?
- 4 What do we know about the scale, causes and consequences of aggression as a social problem in different domains of life?
- 5 What can be done to prevent or reduce aggression?

DEFINITION AND MEASUREMENT OF AGGRESSIVE BEHAVIOUR

How do social psychologists define aggressive behaviour and what methodological tools are available to study it?

What are the main theories put forward to explain why people show aggressive behaviour?

aggression any form of behaviour directed towards the goal of harming or injuring another living being who is motivated to avoid such treatment

In a widely accepted definition, Baron and Richardson (1994, p. 7) characterized **aggression** as 'any form of behavior directed toward the goal of harming or injuring

another living being who is motivated to avoid such treatment'. This conceptualization has several important implications.

(1) Aggressive behaviour is defined by its underlying motivation (to harm or injure another living being), *not* by its consequences (whether or not harm or injury actually occurs). This means that a behaviour is regarded as aggressive if it was guided by the intention to harm, even if no damage was done to the target. A shot fired from a gun may miss its target, but if the shot was intended to hit the target, it is nonetheless an instance of aggression. On the other hand, your dentist may cause you pain, but it is incidental or accidental, and not intended, hence it is not aggression.

(2) A necessary feature of the intention to harm is the actor's understanding that the behaviour in question has the potential to cause harm or injury to the target. If one person's actions lead to harm or injury to another but the actor could not have expected or been aware that the behaviour could lead to those adverse effects, they do not represent instances of aggression. They could be due simply to accidental, careless or incompetent behaviour, but not aggression.

(3) Defining aggression as behaviour that the target would want to avoid means that harmful actions performed at the target's request, such as sado-masochistic sexual practices, do not represent instances of aggression.

This definition covers diverse subcategories of aggressive behaviour, such as physical and verbal aggression, spontaneous and reactive aggression, individual and group aggression. The term *violence* is more narrow in meaning and restricted to behaviours carried out with intention to harm that involve the use or threat of

physical force, such as hitting someone over the head. Thus, not all instances of aggression are violence (e.g., shouting at someone would be aggressive, but not violent), but all acts of violence qualify as aggression.

An important conceptual distinction refers to the difference between *instrumental* and *hostile* (also called angry or affective) aggression. The two types of aggression differ with respect to the underlying motivation of the actor. People carry out acts of

instrumental aggression for the purpose of achieving a particular goal, such as taking a hostage in order to secure a ransom. Here, the behaviour is driven by the ultimate goal the actor wants to achieve (obtaining a large sum of money), and aggression is selected as one of several possible means towards reaching that end. In contrast, **hostile aggression** is motivated by the actor's desire to express negative feelings, such as anger.

instrumental aggression aggressive behaviour performed to reach a particular goal, as a means to an end

hostile aggression aggressive behaviour motivated by the desire to express anger and hostile feelings

The *measurement of aggressive behaviour* creates particular problems for researchers due to its potentially harmful nature. It would be unethical to set up experimental situations in which research participants are given the chance to inflict genuine harm on another person or to expose them to treatments expected to increase the likelihood of subsequent aggression. The major strategies for measuring aggressive behaviour can be organized under two broad headings: *observation*, i.e., data collected by the researcher, and *recording*, i.e., data obtained from other sources, such as research participants or independent observers.

Observation of aggressive behaviour

The most common method for studying aggressive behaviour by observation is the *laboratory experiment* in which aggressive behaviour is observed as a function of experimental conditions created by the researcher. Experimental studies of aggression need to resort to paradigms in which participants can show behaviour *intended* to harm another person without actually allowing any harm to be inflicted on the target. Several experimental paradigms have been developed to address this challenge (see Krahé, 2001, for a comprehensive discussion). They create situations in which participants are given the opportunity to deliver aversive stimuli to another person, in the form of electric shocks (Taylor, 1967), loud noise (Bartholow & Anderson, 2002), cold water (Vasquez, Denson, Pedersen, Stenstrom & Miller, 2005) or unpleasantly hot spicy sauce (Lieberman, Solomon, Greenberg & McGregor, 1999).

Using the extent to which research participants deliver aversive stimuli to another person as a measure of aggression, the effects of various independent variables, such as frustration, alcohol consumption or exposure to media violence, can be studied on aggression as the dependent variable.

Despite their artificial nature, these experimental procedures for measuring aggressive behaviour do have construct validity, i.e., correspondence amongst one another and with other indicators, such as aggressive behaviour observed in natural settings (Anderson & Bushman, 1997). Because they allow researchers to observe variations in aggressive behaviour as a result of their experimental manipulations, such as creating a high vs. low level of frustration, experimental procedures facilitate the analysis of hypotheses about why, when and on what scale aggressive behaviour is shown.

Obtaining reports of aggressive behaviour

An important source of information about the occurrence of aggression in natural contexts is provided by *behavioural self-reports* in which individuals describe their own aggressive tendencies. Standardized measures have been developed to assess self-reported aggression, both at a general level (e.g., Buss & Warren's 2000

Aggression Questionnaire self-report instrument to measure stable individual differences in trait aggressiveness

'*Aggression Questionnaire*') and with respect to particular domains, such as sexual aggression (Koss & Oros's 1982 '*Sexual Experiences Survey*').

The problem with this strategy is that aggression is a socially undesirable behaviour and people may be unwilling to disclose their aggressive behaviour in an effort to provide socially desirable answers.

Peer/other nominations, i.e., reports by informed others, such as parents, teachers or classmates, about the aggressive behaviour of a target person, are less susceptible to the problem of social desirability. For example, Lefkowitz, Eron, Walder and Huesmann (1977) showed that peer-rated aggression was linked to the level of violence in 8-year-old boys' favourite and most frequently watched TV programmes (see the section on media violence later in the chapter). Thus those boys rated more aggressive by their peers

peer nominations method for measuring (aggressive) behaviour by asking other people (e.g., classmates) to rate the aggressiveness of an individual

tended to watch more violent TV. *Peer nominations* can be used to validate self-reports or to identify differences between actors and observers in the perception of aggressive behaviour.

A final source of data on aggressive behaviour is provided by *archival records*, most notably crime statistics, such as the Uniform Crime Reports in the US or the Criminal Statistics in England and Wales. These data sources are not compiled for research purposes and therefore researchers have no influence on what is recorded in the data base. However, crime statistics are informative about the incidence of particular forms of aggression, such as intimate

partner violence, child sexual abuse or homicide. They can also be used for hypothesis testing, for example about the link between high temperature and violent crime (e.g., Anderson, Anderson, Dorr, DeNeve & Flanagan, 2000; see below).

SUMMARY

Aggression is defined in social psychology as behaviour carried out with the *intention* to harm another person. The range of methods available for studying aggression is limited by the essentially harmful nature of this behaviour. For ethical reasons, researchers cannot create situations in which harm is inflicted on another person. The main methods for studying aggressive behaviour include observation under natural conditions, laboratory experiments providing an opportunity for behavioural analogues of real-life aggression (such as administering aversive noise) and the collection of reports of aggressive behaviour in the form of self-reports, reports from peers, parents or teachers, or statistical data on violent crime.

THEORIES OF AGGRESSION

How can we explain why individuals show aggressive behaviour? What are the processes that lead from an aggression-eliciting stimulus to an aggressive response?

Developing theories to explain why people engage in aggressive behaviour has been a prime objective for researchers from different disciplines, not least because understanding the factors that promote aggressive behaviour is a first step towards prevention. Table 8.1 provides a summary of the major theoretical models discussed in this section.

Biological approaches

Biological explanations of aggression refer to evolutionary and genetic principles as well as the role of hormones to explain why individuals differ in their tendency to engage in aggressive behaviour.

(1) The *ethological perspective*, represented most prominently by Konrad Lorenz (1974), looks at aggressive behaviour of animals and humans as driven by an internal energy which is released by aggression-related stimuli. In his famous *steam-boiler model*, Lorenz assumed

steam-boiler model part of Konrad Lorenz's theory of aggression, assuming that aggressive energy is produced continuously within the organism and will burst out spontaneously unless released by an external stimulus

Table 8.1 Major theories of aggression

	<i>Aggression conceptualized as . . .</i>	<i>Data base</i>	<i>Empirical evidence</i>
Biological approaches			
Ethology	. . . internal energy released by external cues; steam-boiler model	Animal studies	No support as a model for human aggression, but still popular in lay discourse
Behaviour genetics	. . . transmitted as part of genetic make-up	Twin and adoption studies	Support for the predictive value of genetic similarity
Hormonal explanations	. . . influenced by male sex hormones and cholesterol	Developmental studies	Inconclusive evidence
Psychological approaches			
Frustration-aggression hypothesis	. . . as a likely response to frustration, likelihood enhanced by aggressive cues	Experimental studies	Supported by empirical evidence
Cognitive neo-associationist model and excitation transfer	. . . as a result of affect elicited by aversive stimulation that is interpreted as anger	Experimental studies	Supported by empirical evidence
Learning theory	. . . as a result of reinforcement, either direct or indirect (observed)	Experimental + observational studies	Supported by empirical evidence
Social cognitive approaches	. . . as a result of social information processing, enactment of learned scripts	Experimental + longitudinal studies	Supported by empirical evidence

**Plate 8.1** *Our genes partly determine how aggressive we are, but so too does the social environment.*

that aggressive energy is produced continuously within the organism until it is released by an external cue, such as the appearance of a rival in the contest for a mating partner. If the amount of energy rises beyond a certain level without being released by an external stimulus, it will overflow, leading to spontaneous aggression.

Psychologists have challenged Lorenz's application of his findings from animal studies to human aggression. An important criticism is directed at the assumption that once the internal reservoir

of aggressive energy has been used up by an aggressive act, it is impossible to trigger another aggressive response for as long as it takes the organism to rebuild a sufficient energy level. There is ample evidence that humans can perform several aggressive behaviours in quick succession and that one aggressive act often serves to precipitate rather than suppress further aggressive acts.

(2) Researchers in the field of *behaviour genetics* examine the extent to which individual differences in aggressive behaviour can be linked to differences in genetic make-up (Plomin, Nitz & Rowe, 1990). Specifically, behaviour geneticists have sought to demonstrate that genetically related individuals are more similar in terms of their aggressive tendencies than individuals who are not genetically related. A meta-analysis of twin and adoption studies by Miles and Carey (1997) concluded that shared genetic make-up accounts to a significant extent for similarities in self-ratings as well as parents' ratings of aggressiveness, explaining up to 50 per cent of the variance. However, an important qualification comes from studies that used behavioural observation as a measure of aggression. In these studies, the impact of shared environment was substantially greater than that of genetic similarity. A subsequent meta-analysis by Rhee and Waldman (2002) also found substantial effects of genetic similarity, but the effects of environmental influences were found to be even stronger. Thus, the evidence from a broad range of studies suggests that aggressive behaviour is affected both by genetic dispositions and by socialization experiences in the course of individual development. An individual's genetic make-up may dispose him or her towards becoming an aggressive

person, but environmental factors play a crucial role in determining whether that disposition will be reinforced or counteracted.

(3) Another line of biological research on aggression is concerned with the role of *hormones* in relation to aggressive behaviour. The dramatic increase in the male sex hormone testosterone in boys during puberty has been linked to an increase in the prevalence of aggressive behaviour in this developmental period, but meta-analyses found only moderate positive correlations between testosterone and aggression among adolescent boys (Book, Starzyk & Quinsey, 2001). Cortisol has been examined as another hormonal correlate of aggression, and results were also mixed: while some studies showed that low levels of cortisol were related to aggressive behaviour and conduct problems, other studies found high cortisol levels to be predictive of aggression (cf. Ramirez, 2003, for a review). Altogether, there is as yet no conclusive evidence that hormones such as testosterone and cortisol play a causal role in the emergence of aggressive behaviour patterns.

Psychological approaches

Early psychological models also assumed aggression to be an innate response tendency. Freud's (1920) view of aggression as an

frustration-aggression hypothesis

assumes that frustration, i.e., blockage of a goal-directed activity, increases the likelihood of aggressive behaviour

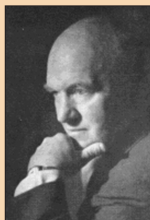
instinct in the service of the pleasure principle inspired the *frustration-aggression hypothesis*, which regards aggression as driven by a desire to overcome frustration. Subsequent

psychological approaches widened the frustration–aggression link into a more general model of negative affect and highlighted the role of cognitive factors, learning experiences and decision-making processes in predicting aggressive responses.



PIONEER

Neal E. Miller (1909–2002) was the architect of the frustration-aggression hypothesis that laid the groundwork for subsequent socio-cognitive and neo-associationist models of aggression. He stressed that aggression is not inevitable but a likely response to frustration, and drew attention to the need to specify conditions under which frustration is likely to lead to aggression. Berkowitz's model of aggressive cues and subsequent cognitive neoassociationist view built upon his ideas. His views on displaced aggression were recently revitalized and elaborated by Norman Miller and colleagues in their 'triggered displaced aggression model' (Miller, Pedersen, Earleywine & Pollock, 2003).



The frustration-aggression hypothesis One of the earliest empirically tested theories about the origins of aggressive behaviour is the frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer & Sears, 1939; Miller, 1941). It states that 'frustration produces instigations to a number of different types of response, one of which is an instigation of some form of aggression' (Miller, 1941, p. 338). In this view, aggression is not the only but a possible response to frustration. Whether or not frustration will result in an aggressive response depends on the influence of additional variables in the individual or the environment. Fear of punishment for overt aggression or unavailability of the frustrator are factors that inhibit aggression. However, frustration that cannot be expressed in the form of aggressive retaliation against the original source is often '*displaced*', i.e., directed at an innocent target person who is more easily accessible or less threatening. In a meta-analysis including 49 studies, Marcus-Newhall, Pedersen, Carlson and Miller (2000) found consistent evidence that frustrated individuals show displacement of aggression from the source of the frustration onto a less powerful or more accessible target.

displaced aggression tendency to respond to frustration with an aggressive response directed not at the original source of the frustration but at an unrelated, more easily accessible target

If aggression is one of several potential consequences of frustration, it is important to identify the conditions under which individuals are likely to show aggressive behaviour when frustrated. One variable shown to enhance the probability of an aggressive response to a frustration is the presence of *aggressive cues*. Aggressive cues are aspects of the situation that draw the actor's attention to the possibility of an aggressive response, such as seeing pictures of people fighting or being presented with the names of famous boxing champions. In a much-cited study, Berkowitz and LePage

aggressive cues situational cues with an aggressive meaning that increase the accessibility of aggressive cognitions

weapons effect finding that individuals who were previously frustrated showed more aggressive behaviour in the presence of weapons than in the presence of neutral objects

(1967) demonstrated that participants who had previously been frustrated by receiving negative feedback administered more electric shocks (as a measure of aggression) in the presence of weapons, i.e., aggressive cues, than in the presence of a badminton racket, i.e., a neutral object. Although subsequent studies have not always replicated the effect – some failing to find a *weapons effect* and others finding an effect in non-frustrated participants as well – overall support for the role of aggression-related cues in facilitating aggressive behaviour is impressive. From their meta-analysis of 57 studies, Carlson, Marcus-Newhall and Miller (1990, p. 632) concluded that 'aggression-related cues present in experimental settings act to increase aggressive responding'. They also found an effect, albeit weaker, of aggressive cues on participants in a neutral mood state. The finding that the impact of aggressive cues is not limited to situations where the person is already in an angry mood suggests that aggressive cues have a wide-ranging potential to activate ('prime') cognitive schemata related to aggression and thus increase the salience of aggressive response options.



Plate 8.2 Do guns make us more likely to behave aggressively?

Cognitive neo-associationism and excitation transfer

In his *cognitive neo-associationist model*, Berkowitz (1993) extended the frustration-aggression hypothesis into a more general conceptualization of the link between negative affect and aggressive behaviour.


cognitive neo-associationist model

explains aggressive behaviour as the result of negative affect that is subjected to cognitive processing and activates a network of aggression-related thoughts and feelings

He argued that frustration is just one type of stimulus that elicits negative affective arousal, and that other aversive stimuli, such as pain or loud noise,

may trigger aggressive responses in the same way. He proposed that aversive (unpleasant) stimuli give rise to unspecific negative feelings that evoke two immediate reactions, fight and flight. In a swift and automatic appraisal process that occurs with little or no conscious awareness, the fight impulse is associated with aggression-related thoughts, memories and behavioural responses, whereas flight is associated with escape-related responses. These responses serve to channel quickly the initially undifferentiated negative affect into the more specific emotional states of (rudimentary) anger or (rudimentary) fear. In a subsequent, more elaborate and controlled appraisal process, the person *interprets* these basic or rudimentary feelings. They are considered in relation to the situational input and the person arrives at a more specific and consolidated emotional state, i.e., anger or fear. This cognitive processing also involves the evaluation of potential outcomes, memories of similar experiences and social norms associated with the expression of different emotions. Figure 8.1 illustrates this process.

For example, when a child is hit by a stone thrown by a classmate, he will immediately experience pain associated with negative affect, probably a combination of anger, inducing the urge to fight, and fear, inducing the urge to run away. Depending on the context and the child's past experience, either the anger or the fear response is likely to dominate and guide his further analysis of the situation. Before deciding how to respond, the child will engage in a more careful appraisal process, including an assessment of his classmate's motives. If he concludes that his classmate threw the stone on purpose, the immediate feeling of anger will be



PIONEER

Leonard Berkowitz (b. 1926) is a key figure in aggression research. He has promoted both theoretical development and empirical evidence with respect to the role of negative affect and cognitive appraisal in aggressive behaviour. His study on the 'weapons effect' (Berkowitz & LePage, 1967) became a classic in social psychology. In this study, it was shown that people who were previously frustrated were more likely to show aggressive behaviour if aggressive cues, such as guns, were present in the situation. Subsequently, he developed his ideas into the cognitive neo-associationist model of aggressive behaviour. He also studied the other side of human nature, helping behavior. His book *Aggression: Its Causes, Consequences, and Control*, published in 1993, provides a comprehensive and authoritative review of aggression research.

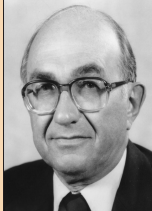
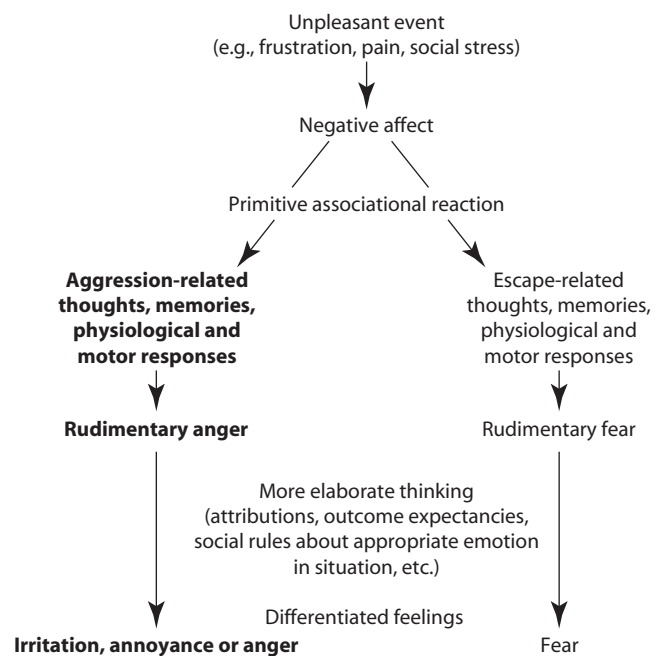



Figure 8.1 The cognitive neo-associationist model of aggression (adapted from Berkowitz, 1993, p. 57).

consolidated, and retaliation will be considered as an appropriate response. Because all the components of the emotional experience are associated with each other, activating one component is assumed to trigger other components relative to the strength of their association, hence the term 'associationism'. The weapons effect described earlier can be explained in the context of this model as a result of aggression-related associations elicited by the

presentation of a weapon which then activate other, connected, aggressive thoughts, feelings and behaviours.

excitation transfer transfer of neutral physiological arousal onto arousal resulting from frustration, thus augmenting negative affect and enhancing the strength of an aggressive response

The cognitive appraisal of physiological arousal is also at the core of another influential theory of aggression, the theory of *excitation transfer* proposed by Zillmann (1978). Zillmann argued that the effects of frustration as a trigger for aggressive behaviour can be increased by physiological arousal from a neutral or non-aggression-related source. If individuals are angered and then experience unspecific arousal from a neutral source, such as physical exercise, the anger-related arousal will be magnified by the subsequent non-aggressive arousal, provided the individual is no longer aware of the source of the unspecific arousal. The neutral arousal (excitation) is transferred onto the anger-related arousal and falsely attributed as anger, intensifying the strength of the subsequent aggressive response. For example, a football player may be incensed when he sees a member of the other team foul one of his team members. He sprints the length of the pitch to confront the opposing player. As he reaches him his original anger-related arousal, based on the foul, is magnified by the exercise-induced arousal, from sprinting 70 metres. His arousal is then so great that, instead of merely protesting, he punches the opponent.



Plate 8.3 To what extent are footballers' levels of violence determined by their exercise-induced arousal?

In combination, the cognitive neo-associationist model and the excitation transfer model highlight the role of negative affect as a powerful stimulant of aggression. It activates a network of affective and cognitive responses that enhance the salience of aggressive responses and thus increase the likelihood that aggressive intentions will be formed and implemented in behaviour.

Learning and aggression Studies within the behaviour-genetic approach described above suggest that an individual's genetic make-up plays a role in his or her disposition towards aggressive behaviour. However, there is no doubt that learning experiences in the course of the socialization process are as, if not more, important in affecting the development of aggressive behaviour patterns (Bandura, 1983). Learning is defined as behaviour change through experience, and two mechanisms in particular affect the acquisition of aggressive behaviour: *direct reinforcement* and *modelling* (vicarious reinforcement). Direct reinforcement involves the experience of being rewarded for aggressive behaviour, either by achieving a desired goal through the aggressive act or by winning social approval for showing aggressive behaviour. Children who are praised by their parents for 'standing up for themselves' after being provoked or who succeed in getting hold of a desired toy by grabbing it from another child learn that aggressive behaviour pays off, and they are encouraged by the positive effects of their behaviour to perform similar aggressive acts in the future. Modelling refers to learning by imitation. Watching others being rewarded for their aggressive behaviour also increases the likelihood of aggressive behaviour among the observers.

modelling learning by imitation, observing a model being rewarded or punished for his/her behaviour

In a classic study, Bandura, Ross and Ross (1963) pioneered the Bobo Doll paradigm in which children are exposed to adult models behaving either in an aggressive or in a non-aggressive way towards a large, inflatable clown figure called Bobo. When the children were subsequently given the opportunity to play with the doll, those who had watched the aggressive model showed more aggressive behaviour towards the doll than those who had watched the non-aggressive model, particularly when the model had been reinforced for showing aggressive behaviour. The social learning perspective is a major theoretical approach for understanding the effects of media violence on aggressive behaviour, which can be regarded as a paradigmatic case of observational learning (see the section on violent media content below).

Social cognitive models The theoretical approaches discussed so far have stressed the role of affect and cognition as antecedents of aggressive behaviour and highlighted the importance of learning experiences in understanding aggressive behaviour. Socio-cognitive models of aggression refer to these lines of thinking and elaborate them by focusing on the role of cognitive representations in the prediction of aggressive behaviour. In his social cognitive approach, Huesmann (1998) proposed that social behaviour in general, and aggressive behaviour in particular, is shaped by abstract representations of appropriate behaviours in different situational contexts. These abstract representations are

aggressive scripts cognitive representation of when and how to show aggressive behaviour

situations. For example, if children have repeatedly responded (or seen others responding) to provocations by showing physical aggression, they will develop a generalized cognitive representation in which provocation and physical aggression are closely linked. When encountering a provocation they are likely to activate their scripted knowledge, which then prompts them to enact the behaviour specified by the script. The script also contains normative beliefs that tell the person when it is appropriate to show aggressive behaviour and which of various variants of the script to enact. These normative beliefs may specify that it is acceptable to respond with physical aggression when angered or provoked by a peer, but not when angered by an adult, and the likelihood of showing an aggressive response towards a peer or an adult will vary accordingly (Huesmann & Guerra, 1997).

Each of the psychological explanations of aggression highlights particular aspects of the processes that give rise to aggressive behaviour. Rather than competing against each other, they are best seen as pieces of a jigsaw that – when put together – create a clearer picture of the phenomenon called aggression. The *general aggression model* by Anderson and colleagues (Lindsay & Anderson, 2000) combines the different pieces of knowledge into a comprehensive framework, as shown in Figure 8.2.

general aggression model integrative framework explaining how personal and situational input variables lead to aggressive behaviour via cognitive appraisal and negative affective arousal

called *aggressive scripts*, i.e., guidelines for deciding in favour of or against showing aggressive behaviour in specific

called *aggressive scripts*, i.e., guidelines for deciding in favour of or against showing aggressive behaviour in specific

The model provides a structure that helps us to understand the complex processes through which particular input variables, such as violent media stimuli or biographical experiences of abuse, can lead to aggressive behaviour as the critical outcome variable.

SUMMARY

This section has presented the most prominent theories of the causes and mechanisms of aggressive behaviour. Biological theories focus on the role of genetic and hormonal factors accounting for differences in aggressive behaviour. In contrast, psychological theories refer to affective and cognitive reactions to aggression-eliciting stimuli and the way in which they pave the way for aggressive responses. These models show that negative affect – caused by a range of adverse stimuli such as frustration, pain or noise – is an important trigger of selective information processing that enhances the probability of aggressive behaviour. This information processing draws on aggressive scripts, i.e. abstract representations of how and when aggressive behaviour should be enacted. Another well-supported theoretical position is that aggression is a form of learned behaviour, implemented in the individual's behavioural repertoire through direct reinforcement as well as observational learning. The general aggression model integrates the diverse psychological theories of aggression into a common framework.

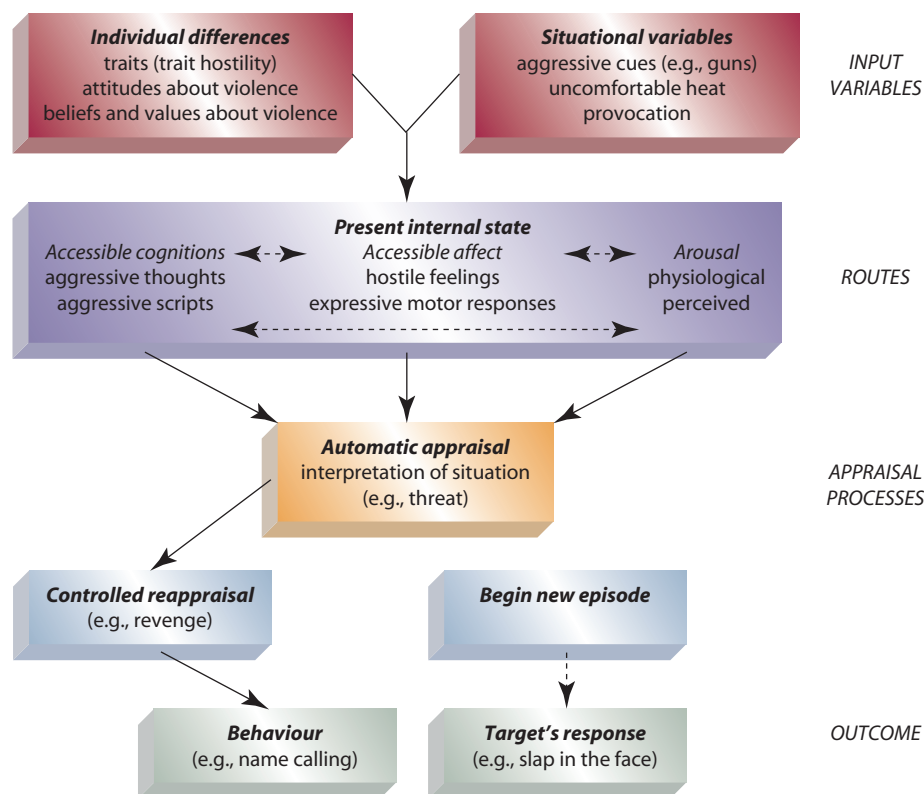


Figure 8.2 The general aggression model (GAM) (based on Lindsay & Anderson, 2000, and Anderson et al., 2000).

PERSONAL AND SITUATIONAL VARIABLES AFFECTING AGGRESSIVE BEHAVIOUR

Do people differ in their propensity to engage in aggressive behaviour, and what are variables associated with such individual differences?

What are critical factors in the situation or the social environment that make aggressive behaviour more likely?

In this section, we will take a closer look at some of the factors associated with differences between persons and between situations in the likelihood of aggression. In terms of the general aggression model, these are the input variables that are crucial in eliciting cognitive, affective and physiological responses that may or may not lead to an aggressive response. The guiding questions for this section are the following: how can we distinguish between more or less aggressive individuals and groups of individuals, and what situational influences of a transient or persistent nature precipitate aggressive behaviour?

Individual differences in aggressive behaviour

Researchers have suggested several variables as predictors of individual differences in aggressive behaviour. In the present section, we will focus on three of them that have received intense research attention: trait aggressiveness, hostile attributional style and gender (cf. Krahé, 2001, Ch. 3, for a coverage of additional person variables related to aggression).

trait aggressiveness denotes stable differences between individuals in the likelihood and intensity of aggressive behaviour

ences between individuals with respect to the likelihood of showing aggressive behaviour. Whereas some individuals are easy to anger and quickly get 'hot under the collar', others are generally less inclined to respond with aggression. Longitudinal studies following the same research participants over many years from childhood into adulthood have shown that the tendency to engage in aggressive behaviour is remarkably stable over time. Drawing on findings from 16 studies exploring the temporal stability of men's aggressive behaviour, Olweus (1979) found a stability coefficient of $r = .76$ over a one-year period, of $r = .69$ over five years and still of $r = .60$ over a period of 10 years. These figures are matched only by the stability of intelligence scores over time and indicate that aggression in later stages of development may be predicted on the basis of earlier aggression scores. Interestingly, the stability was

Trait aggressiveness The concept of **trait aggressiveness** describes dispositional, i.e., temporally and cross-situationally stable, differ-

highest among those individuals who had very high scores and very low scores of aggression at the beginning of the measurement period, whereas individuals with moderate aggression scores at the beginning were comparatively less stable over time.

Trait aggressiveness is conceptualized as a multidimensional construct comprising four different components: physical aggression, verbal aggression, anger and hostility. It is typically assessed by self-report questionnaires in which participants indicate the likelihood of showing different forms of physical aggression, verbal aggression, anger and hostility. The most widely used instrument is the Aggression Questionnaire (Buss & Warren, 2000; see above), but there are also instruments specially designed for adolescents (e.g., Orpinas & Frankowski, 2001).

Hostile attribution bias

Another variable linked to stable differences in the tendency to show aggressive behaviour is the **hostile attribution bias**. This construct

hostile attribution bias tendency to attribute hostile intentions to a person who has caused damage when it is unclear whether the damage was caused accidentally or on purpose

refers to the tendency to interpret ambiguous behaviour by another person as an expression of the actor's hostile intent. For example, in deciding whether or not another person causes harm accidentally or on purpose, individuals with a hostile attributional style prefer an attribution to hostile intent rather than seeing the actor's behaviour as unintentional or caused by carelessness. The hostile attribution bias is typically measured by presenting short films or written scenarios in which one actor causes harm to another person, but the stimulus material is unclear as to whether the harm was caused by accident or on purpose (e.g., Dodge, 1980). For example, children are shown a video in which two boys build a tower of bricks. One boy then knocks down the tower, and the film is ambiguous as to whether he did so intentionally. The participants are asked to indicate if they think the child knocked down the tower by mistake or on purpose. Respondents who consistently prefer explanations that attribute the damage to the actor's intent are seen as having a hostile attribution bias.

Studies with adults demonstrate that individuals with a hostile attributional style are more likely to show aggressive behaviour and that differences in trait aggressiveness are predictive of the hostile attribution bias (Dill, Anderson, Anderson & Deuser, 1997). In a longitudinal study by Burks, Laird, Dodge, Pettit and Bates (1999), children who showed hostile attributional tendencies were also more likely to develop aggressive behaviour patterns. From this perspective, individual differences in aggression may be the result of schematic, habitual ways of information processing which highlight the hostile nature of social interactions and thereby lower the threshold for aggressive responses.

To explain the development of the hostile attribution bias, several studies point to the role of exposure to violent media content. Correlational studies found a relationship between attraction to media violence and hostile attribution bias (Krahé & Möller, 2004). Other studies investigated whether hostile attributional styles are transmitted from mothers to their children. MacBrayer, Milich and Hundley (2003) found that mothers of aggressive children perceived more hostile intent and were more likely to report an intention to respond aggressively than mothers of non-aggressive children. However, mothers' and children's hostile attributions



Plate 8.4 Mothers' and children's levels of aggression are significantly correlated only for girls.



Plate 8.5 Are women really less aggressive than men?

and aggressive behavioural intentions were found to be significantly correlated only for the girls, not for the boys. The authors explain this sex-specific effect with reference to the principle of learning by modelling, which states that similar models (here: models of the same sex) are more likely to be imitated than dissimilar models. Unfortunately, no studies have yet examined the correspondence between fathers' and sons' hostile attribution biases to substantiate this explanation.

Gender differences A final variable associated with individual differences in aggression is gender, with the underlying hypothesis that men are more aggressive than women. Support for this hypothesis comes from the analysis of crime statistics across a range of countries, which show that men are overrepresented as perpetrators of violent crime at a ratio of about 8 to 1 (Archer & Lloyd, 2002). Meta-analyses of the psychological literature also found significant sex differences in aggression, with men showing more physical and verbal aggression than do women

(Archer, 2004; Eagly & Steffen, 1986). However, despite being significant, the size of the effects is moderate at best, and smaller for verbal than for physical aggression. Cross-cultural analyses suggest that this is a general pattern across different societies (Archer & McDaniel, 1995). The picture changes somewhat when relational aggression is included as a form of aggressive behaviour. Relational aggression is defined as harming others through purposeful manipulation and damage of their peer relationships (e.g., passing lies about someone to her friend, so that their relationship is harmed), and several authors have suggested that women may be as, if not more, involved than men in this type of aggression (e.g., Österman et al., 1998). Therefore, the 'myth of the non-aggressive woman' should be critically examined in the context of a broader range of behavioural types and contextual conditions of aggression (White & Kowalski, 1994).

Situational influences on aggressive behaviour

Just as it is clear that not all individuals respond with aggression in a given situation, it is clear that not all situations elicit aggressive responses to the same extent. In this section, we examine evidence concerning the role of three situational input variables that affect the occurrence of aggressive behaviour: alcohol consumption, high temperatures and exposure to violent media content.

Alcohol From the evidence available to date, it seems safe to conclude that even moderate amounts of alcohol lead to increased aggressive behaviour. Alcohol plays an important role in the perpetration of violent crime, such as homicide (Parker & Auerhahn, 1999), domestic violence, including the physical and sexual abuse of children, sexual aggression and wife battering (Wiehe, 1998), and many forms of group violence, such as sports violence, rioting and vandalism (Russell, 2004). Experimental studies show that alcohol has a causal effect on aggressive behaviour. These studies compare the aggressive responses of individuals who were given alcohol to those of individuals in a control condition who did not receive alcohol. Two meta-analyses examined evidence from a wide range of studies comparing alcohol vs. control groups and found that alcohol was a significant predictor of aggressive behaviour (Bushman & Cooper, 1990; Ito, Miller & Pollock, 1996). It is important to note, however, that general measures of the strength of the alcohol-aggression link mask the fact that the effects of alcohol may be strong for some people, but weak for others. For example, a recent study by Giancola (2003) showed that alcohol dramatically increased the administration of (supposedly) painful electric shocks to an opponent for individuals low in dispositional empathy (the ease with which people can adopt the perspective of another person), but failed to affect the behaviour of participants high in dispositional empathy (see Chapter 9, this volume, for more detail on empathy).

In terms of explaining the effects of alcohol on aggression, the *attentional hypothesis* suggests that alcohol has an indirect effect on aggression by reducing the attentional capacity of the individual, preventing a comprehensive appraisal of situational cues (Laplace, Chermack & Taylor, 1994). As a result, only the most salient cues



Plate 8.6 Even moderate amounts of alcohol lead to increased aggressive behaviour.

present in a situation receive attention, and if these cues suggest aggressive rather than non-aggressive responses, aggressive behaviour is likely to be shown. This view is supported by evidence on the impact of aggression-related cues discussed earlier.

High temperature Another situational input variable affecting aggressive behaviour is high temperature (Anderson et al., 2000). The *heat hypothesis* predicts that aggression should increase as temperature goes up (see Everyday Social Psychology 8.1). Two paradigms were developed to test this hypothesis under natural conditions. The first paradigm is the *geographic regions approach* comparing violent crime rates in hotter vs. cooler regions, finding support for a link between hotter climates and higher violence rates in archival data.

heat hypothesis hypothesis that aggression increases with higher temperatures

geographic regions approach method for testing the heat hypothesis by comparing violence rates in cooler and hotter climates

time periods approach method for testing the heat hypothesis by comparing violence rates during cooler and hotter periods

However, the regions included in the comparison, typically the north vs. the south of the United States, differed in aspects other than temperature, such as unemployment rates or normative beliefs condoning violence, that could be relevant to aggression. This potential alternative explanation is ruled out by the second paradigm, the *time periods approach*, which compares changes in violent crime rates within the same region as a function of fluctuations in



EVERYDAY SOCIAL PSYCHOLOGY 8.1

The heat hypothesis and effects of global warming

The heat hypothesis states that high temperature increases the likelihood of violent behaviour. The implications of studies supporting the heat hypothesis are worrying in the face of global warming. If increases in temperature are systematically related to increases in violent crime, then the continuous rise in global temperature presents a risk factor for the rise of violent crime. Based on archival data on the link between temperature and violent crime in the United States over 48 years from 1950 to 1997, Anderson et al. (2000) estimated the magnitude of this danger, as shown in Figure 8.3.

Their analysis predicts that an increase in temperature by 2 degrees Fahrenheit increases the murder and assault rate by 9 cases per 100,000 people. For a US population of 270 million, this increase translates into 24,000 additional murder/assault cases per year. For readers more familiar with Celsius than Fahrenheit, with an increase in average temperature of just 1°C, the murder and assault rate is projected to go up by 24,000 cases in the US. As Anderson et al. (2000) point out, it is important to bear in mind that temperature is only one of many factors affecting violent crime rates. However, it remains significant

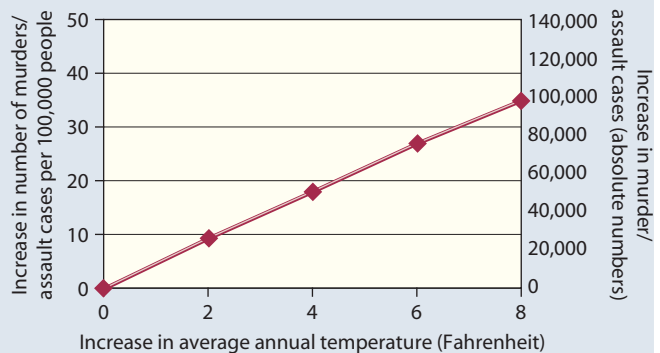


Figure 8.3 Estimates of global warming effect on murders and assaults per year in the United States with a population of 270 million (based on Anderson et al., 2000, p. 124).

when other contributory factors are controlled for. Research on the heat hypothesis alerts both policy makers and the general public to the fact that the dangers of global warming are not restricted to our natural environment but also pose a threat to the social functioning of human communities.

temperature, e.g., between winter and summer months or between hotter and cooler summers. This approach also provided evidence that violent crime rates were higher in the summer months than during the winter period.

Laboratory studies in which ambient temperature can be manipulated, with other factors being held constant, provide a third approach to the study of heat and aggression. Unfortunately, lab studies on the effect of high temperatures have produced divergent results. While some studies supported the conclusions from naturalistic analyses of the temperature–aggression link, other studies found a decrease in aggression when temperatures rose beyond a certain level. On the basis of a meta-analysis of 11 studies, Anderson et al. (2000) concluded that so far the results of laboratory studies on the heat hypothesis have remained inconsistent.

The effect of high temperature on aggression found under natural conditions can be explained with reference to the general aggression model. Heat gives rise to feelings of discomfort, which are proposed as input variables that trigger negative affective arousal; these, in turn, affect the cognitive processing of social stimuli and thereby enhance the likelihood of aggressive behaviour. Interestingly, no corresponding effect has been found for uncomfortably cold temperatures in natural settings. The explanation offered by Anderson et al. (2000) is that people are generally better equipped to protect themselves against the cold than they are to escape the heat, enabling them to reduce coldness-related discomfort more easily than heat-related discomfort.

Violent media content Evidence concerning the potentially harmful effect of exposure to *media violence* comes from three

media violence–aggression link
hypothesis that exposure to violent media content makes media users more aggressive

sources: (1) experimental studies exposing participants to either a violent or a non-violent media depiction and exploring the effects of this manipulation on subsequent

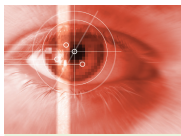
aggressive thoughts, feelings and behaviours (e.g., Kirsh, 1998); (2) correlational studies collecting self-reports of violent media usage and relating them to measures of aggression (e.g., Gentile, Lynch, Linder & Walsh, 2004); and (3) longitudinal studies following the covariation of violent media consumption and aggression in the course of individual development (e.g., Huesmann & Miller, 1994; see Research close-up 8.1). Even though violent media content is discussed here in the context of situational input variables for aggressive behaviour, it is important to note that researchers and the general public are not concerned primarily with the effects of a single or short-term presentation but with the cumulative effects of repeated exposure over time

The present state of knowledge derived from each of these approaches is assessed in a recent authoritative review by Anderson et al. (2003) that culminates in the conclusion: ‘Research on violent television and films, electronic games, and music reveals unequivocal evidence that media violence increases the likelihood of aggressive and violent behavior in both immediate and long-term contexts’ (p. 81). Integrating the findings from almost 300 individual studies, Anderson and Bushman (2002) reported significant effect sizes (correlations weighted by sample size) for the link

between exposure to media violence and aggression. The effect sizes vary between .17 and .23 across different methodologies (cross-sectional vs. longitudinal studies, laboratory vs. field experiments). These effect sizes are small in magnitude by conventional standards. This means that while some of the variability in aggressive behaviour can be accounted for by differences in exposure to violent media content, a much larger proportion of the variance is attributable to other factors. However, even small effect sizes can be important when extrapolated to large numbers of media users (Sparks & Sparks, 2002). Beyond demonstrating that media violence has a causal effect on aggressive behaviour, it is important to understand *how* this effect is produced. Several interlocking mechanisms have been identified that link violent media content as input variable and aggressive behaviour as outcome variable (see Krahé, 2001, Ch. 5 for a comprehensive discussion):

- 1 Watching media depictions of aggressive interactions increases the *accessibility of aggressive thoughts and feelings*. Asking participants to list their thoughts following exposure to a violent or non-violent videotape, Bushman and Geen (1990) found that more aggressive thoughts were generated by participants who had watched the violent videotape.
- 2 Exposure to aggression may *instigate social learning processes* which result in the acquisition of new behaviours. Much of the aggression portrayed in the media is rewarded or at least goes unpunished. Moreover, it is often shown by attractive characters with whom viewers identify. As social learning theory suggests, learning through modelling is particularly likely under these circumstances (Bandura, 1983).
- 3 Long-term exposure to media violence leads to *habituation*, which in turn reduces the sensitivity towards the victims’ suffering. Habituation describes the process whereby the ability of a stimulus to elicit arousal becomes weaker with each consecutive presentation. The person gets used to it, and the stimulus loses its impact. The decline in physiological arousal in the course of prolonged exposure to violence is well documented (e.g., Averill, Malstrom, Koriat & Lazarus, 1972).
- 4 Exposure to violent media content also has an indirect effect on aggressive behaviour through promoting the development of a hostile attribution bias. A recent study by Krahé and Möller (2004) showed that the frequency with which adolescents played violent electronic games predicted the extent to which they attributed hostile intentions to an actor causing harm to another person in ambiguous circumstances. As shown earlier, the hostile attribution, in turn, increases the likelihood of aggressive behaviour.

habituation process whereby the ability of a stimulus to elicit arousal becomes weaker with each consecutive presentation



RESEARCH CLOSE-UP 8.1

The long-term impact of TV violence on aggression

Lefkowitz, M.M., Eron, L.D., Walder, L.O. & Huesmann, L.R. (1977). *Growing up to be violent*. New York: Pergamon. Summary of the 'New York State Studies' on the long-term effects of TV violence based on Huesmann and Miller (1994).

Introduction

This study explored the long-term effects of exposure to television violence on aggression. Correlational evidence showing that viewing TV violence and behaving aggressively are linked if both constructs are measured at the same time are open to two competing explanations of the cause-effect relationship: (1) that viewing TV violence makes viewers more aggressive or (2) that more aggressive individuals are more strongly attracted by violent TV programmes. By using a longitudinal design in which the same participants were studied three times over a period of 22 years, the authors were able to examine which of the two hypotheses is more likely to be correct: if the link from viewing TV violence at the beginning of the study (time 1) to aggressive behaviour 10 years on (time 2) is stronger than the link from aggression at time 1 to the viewing of violent TV programmes at time 2, this speaks in favour of the first hypothesis, i.e., that TV violence is a causal factor in the development of aggressive behaviour patterns.

Method

The study started in 1960 with a sample of 875 children that comprised the entire population of third graders in a community in Columbia County, New York. Ten years later, 427 of the original participants, who were then 18, were re-interviewed. Another 12 years later, in 1982, data were collected from 409 of the original participants who by then had reached the age of 30. At the first assessment, measures of aggressive behaviour were obtained for each child on the basis of peer nominations. Exposure to TV violence was assessed by asking the mothers to name their child's most-watched TV programmes, which were then rated by experts for level of violent content. Aggressive behaviour and exposure to TV violence were measured again at the subsequent two data points, and additional data about criminal offences were collected at the last data point.

Results

First, concurrent correlations between exposure to TV violence and aggression were computed for each data point. At time 1, there was a significant correlation for boys, but not for girls; at time 2, there was no relationship for either sex. More important, however, are the correlations across the two data points. Cross-lagged panel analyses were conducted in which the correlations

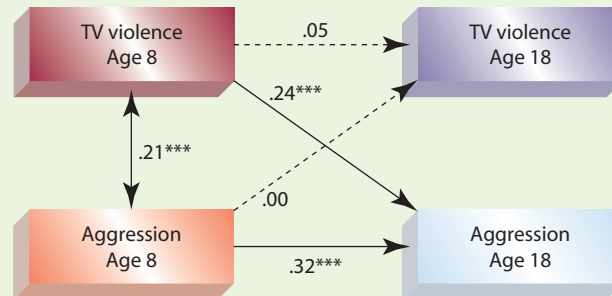


Figure 8.4 Longitudinal link between exposure to media violence and aggression in a sample of boys (based on Huesmann & Miller, 1994, p. 169). Note. The broken lines indicate non-significant links.

between time 1 aggression and time 2 exposure to violent TV programmes were compared against time 1 TV violence exposure and time 2 aggression. No evidence was found for a longitudinal link between TV violence and aggression in girls. However, for boys, exposure to TV violence at time 1 was significantly correlated with aggression at time 2, whereas aggression at time 1 was unrelated to TV violence exposure at time 2. The path model that presents the relationships for the sample of 184 boys for whom complete data were available from both time 1 and time 2 is shown in Figure 8.4.

For the 162 male participants still in the sample at time 3, 22 years after the start of the study, a significant path (.18**) was found from exposure to TV violence at age 8 and conviction for violent crime at the age of 30.

Discussion

The study provides an impressive longitudinal data base from which causal relationships between media violence and aggression can be inferred. For boys, there was clear evidence that early exposure to TV violence predicted aggressive behaviour over a period as long as 22 years. The magnitude of the link was not dramatic, which is unsurprising given the host of other factors that affected participants in the course of that period, but it suggests that the potential long-term effects of exposure to TV violence in childhood give cause for concern. Subsequent studies, including cross-national comparisons, confirmed this finding (Huesmann & Eron, 1986). For girls, the evidence remains inconclusive. A subsequent longitudinal study by Huesmann, Moise-Titus, Podolski and Eron (2003) found parallel links among men and women between exposure to TV violence in childhood and aggression in adulthood, but studies into the impact of violent computer games also showed stronger effects for male than for female players (e.g., Bartholow & Anderson, 2002).

SUMMARY

The research reviewed in this section shows that aggressive behaviour varies both as a function of person variables and as a function of situational context. Stable individual differences in the propensity to act aggressively (trait aggressiveness) and to interpret others' actions as an expression of hostile intent (hostile attribution bias) predict differences in the ease with which aggressive responses are triggered in a particular situation. Research has also identified consistent gender differences, with men showing more physical aggression than do women. Some studies suggest that for relational aggression, such as social exclusion, the gender difference may be reversed, but more research is needed to consolidate this finding. Among the situational variables affecting the likelihood of aggressive behaviour, alcohol consumption, high temperature and exposure to media violence were shown with high consistency to lower the threshold for aggressive behaviour. In the case of media violence, longitudinal studies demonstrate that negative effects can be found over extended periods of time.

AGGRESSION AS A SOCIAL PROBLEM

Are there gender differences in the perpetration of intimate partner violence and sexual aggression?

What is bullying and what do we know about the characteristics of bullies and victims?

The theoretical and empirical contributions discussed so far identified critical input variables as well as mediating processes that explain the occurrence of aggressive behaviour. In this section, we will look at specific forms of aggressive behaviour between individuals and between groups and discuss how the theories and findings examined so far can contribute to a better understanding of these social problems.

Intimate partner violence

Intimate partner violence is defined as the perpetration or threat of an act of physical violence by one partner on the other in the context of a dating/marital relationship. It is a serious problem across the world, even though the prevalence rates vary enormously

intimate partner violence perpetration or threat of an act of physical violence within the context of a dating/marital relationship

not only between but also within countries (see reviews of the international evidence by Krahé, Bieneck & Möller, 2005; Krug, Dahlberg, Mercy,



Plate 8.7 Intimate partner violence is a serious problem across the world. Research looks at whether men and women are involved as perpetrators to the same or a different degree.

Zwi & Lozano, 2002). Mirrlees-Black (1999) found that 23 per cent of women and 15 per cent of men in the UK reported that they had experienced violence from an intimate partner at some point in their lives. In a Dutch study by Römken (1997), 21 per cent of women and 7 per cent of men reported having experienced assault by an intimate partner at least once in their lives.

One of the most contentious issues in this field of research refers to the question of whether men and women perpetrate intimate partner violence to the same or a different degree. Two main data sources are available to address the scale of intimate partner violence and the question of men's and women's involvement as perpetrators: (1) official crime statistics and crime victimization surveys of representative samples, and (2) research collecting self-reports of perpetration of, or victimization by, relationship aggression, using the **Conflict Tactics Scales** (Straus, 1979; revised version: CTS 2, Straus,

Conflict Tactics Scales instrument for measuring intimate partner violence by collecting self-reports of perpetration and/or victimization

Hamby, Boney-McCoy & Sugarman, 1996). Official crime victimization figures show that a much greater proportion of women than men are victims of partner violence and that the rate of injuries from partner violence is higher for female than for male victims (e.g., Rennison & Welchans, 2000). Studies using the Conflict Tactics Scales, however, portray a different picture. In this measure, participants are presented with a list of minor (e.g., 'I pushed or shoved my partner') and severe (e.g., 'I slammed my partner against a wall') acts of physical aggression and asked to indicate whether and how many times they have shown the behaviour in question towards an intimate partner. A large body of evidence has shown that on the CTS women feature as much or even more in the perpetration of physical aggression towards a partner than men do. In a meta-analysis of 82 studies, Archer (2000) found no evidence of the overrepresentation of men in the perpetration of physical aggression. Instead, he concluded that women were slightly more likely than men to show physical aggression towards a partner.

Critics have argued that the picture of gender symmetry portrayed by studies using the CTS is largely due to the fact that this instrument records acts of violence without considering their context. It is now widely acknowledged by researchers that progress in the understanding of the dynamics of intimate partner violence will have to pay greater attention to the specific forms and contexts in which assaults on intimate partners take place (Frieze, 2000).

Sexual aggression

Sexual aggression includes a range of forced sexual activities, such as sexual intercourse, oral sex, kissing and petting, using a range

sexual aggression forcing another person into sexual activities through a range of coercive strategies, such as threat or use of physical force, exploitation of the victim's inability to resist or verbal pressure

of coercive strategies, such as threat or use of physical force, exploitation of the victim's inability to resist or verbal pressure. It also includes unwanted sexual attention in the form of sexual harassment, stalking and obscene phone calls (Belknap, Fisher & Cullen, 1999; Frieze & Davis, 2002). Official crime statistics show that sexual aggression is a large-scale problem. In Germany, 8,766 cases of rape and sexual assault were reported to the police in 2003, which corresponds to a rate of 10.6 per 100,000 citizens (Polizeiliche Kriminalstatistik 2003). UK crime statistics revealed that 9,743 rapes were reported to the police in 2001, corresponding to a victimization rate of 18.7 per 100,000 members of the population (Regan & Kelly, 2003). The majority of sexual assaults are committed by a perpetrator known to the victim, either as an acquaintance or as an intimate partner. Despite the persistence of the 'real rape stereotype' picturing rape as a violent surprise attack in a dark alleyway, sexual assaults by strangers are the exception rather than the rule. Complementing crime statistics that only reflect cases reported to the police, large-scale studies have been conducted to record sexual victimization of women by men. A summary of this data base is presented in Table 8.2.

In contrast to intimate partner violence, it is undisputed that sexual violence is gender asymmetrical, with the vast majority of

Table 8.2 Prevalence of men's sexual aggression against women (based on Spitzberg, 1999)

Form of sexual victimization/aggression	Women's victimization reports (%)	Men's perpetration reports (%)	Number of studies
Rape ^a	12.9	4.7	63
Attempted rape	18.3	10.8	35
Sexual assault ^b	22.0	8.9	40
Sexual contact ^c	24.0	13.4	28
Sexual coercion ^d	24.9	24.0	39

^a Completed sexual intercourse through threat or use of force.

^b Penetration of the body through threat or use of force.

^c Sexual acts without penetration of the body through continued arguments, authority, force or threat of force.

^d Sexual intercourse through verbal pressure or abuse of position of authority.

sexual assaults committed by male perpetrators against female victims. However, it should be noted that sexual violence is also a problem in same-sex relationships (e.g., Krahe, Schütze, Fritsche & Waizenhöfer, 2000) and that women do show sexual aggression against men (Anderson & Struckman-Johnson, 1998; Krahe, Waizenhöfer & Möller, 2003).

The consequences of a sexual assault on the victim are severe. A substantial number of rape victims develop the clinical symptomatology of *post-traumatic stress disorder* (PTSD). Victims re-experience the assault in dreams, images and intrusive memories, they try to avoid cues reminding them of the assault, and experience a general emotional numbness (Foa & Rothbaum, 1998). Contrary to a widely held public belief, assaults by partners and acquaintances are equally traumatizing for the victim as stranger assaults (Culbertson & Dehle, 2001).

post-traumatic stress disorder characteristic patterns of symptoms observed in survivors of traumatic experiences such as rape

Victims of sexual aggression not only have to come to terms with the emotional trauma of the assault itself. They also have to cope with the reactions of others who learn about their fate. There is a widespread tendency to blame the victim of a sexual assault, unparalleled in judgements of victims of other criminal offences. A large body of evidence has shown that certain victim characteristics, such as low social status, higher number of sexual partners, pre-rape behaviour that is at odds with female role expectations, are linked to higher attributions of responsibility to the victim, and often correspondingly lower responsibility attributed to the attacker (Krahe, 1991). The tendency to hold victims responsible for being sexually assaulted is seen as a major factor in the low conviction rates for rape that have plagued the legal systems of many western countries (Temkin & Krahe, 2007).

Bullying in school and the workplace

The last 25 years have seen a growing concern about aggressive behaviour in school and work settings (Olweus, 1994; Randall, 1997). Referred to by different

bullying denotes aggressive behaviour directed at victims who cannot easily defend themselves, typically in schools and at the workplace

terms, such as **bullying**, mobbing or workplace aggression, this phenomenon denotes aggressive behaviour directed at victims who cannot easily

defend themselves (Smith, Ananiadou & Cowie, 2003). Bullying typically carries on over extended periods of time and involves a power differential between bully and victim based on physical strength or superior status that undermines the victims' ability to defend themselves or retaliate. Forms of bullying include physical, verbal and relational aggression, i.e., behaviour directed at damaging the victim's peer relationships. The typical victim is an anxious, socially withdrawn child or adolescent, isolated from his or her peer group and likely to be physically weaker than most peers. In contrast, bullies are typically strong, dominant and assertive, showing aggressive behaviour not just towards their victims but also towards parents, teachers and other adults (cf. Griffin & Gross, 2004, for a comprehensive review). Boys feature more prominently than girls as victims as well as perpetrators of bullying (Olweus, 1994). They are also more likely to use physical aggression than are girls, who rely more on verbal and relational forms of aggression, as shown in a cross-national comparison involving 21 countries (Smith et al., 1999).

Workplace bullying has only recently become the object of systematic research, and empirical evidence is still limited. Like school bullying, the core of the construct refers to behaviours intended to make another person feel miserable at work over longer periods of time, with the target persons being unable to defend themselves due to an imbalance of power between perpetrator and victim. According to Hoel, Rayner and Cooper (1999), both the prevalence and the nature of experienced bullying in the workplace are

similar for men and women. However, women appear to be more negatively affected by bullying than men. A large-scale study by Smith, Singer, Hoel and Cooper (2003) explored potential links between individuals' experience of bullying at school and at the workplace. A sample of more than 5,000 adults employed by a wide range of companies in the United Kingdom completed a measure of experience of workplace bullying and provided retrospective reports of bullying victimization while at school. Thirty-three per cent of participants identified themselves as victims of school bullying, and 25 per cent reported that they had experienced workplace bullying in the last five years. A significant association was found between school and workplace bullying: respondents victimized at school were more likely to have been bullied at work in the last five years than respondents who had not been bullied at school. It is important to note, however, that the relationship was inferred on the basis of retrospective reports of school bullying that may have been inaccurately recalled or distorted in the light of subsequent experiences of bullying in the workplace.

SUMMARY

Intimate partner violence, sexual aggression and bullying are widespread forms of aggression in everyday life. They can lead to lasting negative effects on the victims' psychological functioning and well-being. In research on intimate partner violence, the issue of whether men or women feature more prominently as perpetrators is controversial, but there is consistent evidence that women are more likely to be injured by an intimate partner than are men. Sexual aggression is perpetrated mostly by men against women. Bullying in school and the workplace is characterized by a power differential between perpetrator and victim. Some studies suggest that experiences of being bullied in school make victims vulnerable to subsequent workplace bullying.



Plate 8.8 Bullying, either in schools or in the workplace, denotes aggressive behaviour directed at victims who cannot easily defend themselves.

PSYCHOLOGICAL PREVENTION AND INTERVENTION: WHAT CAN BE DONE ABOUT AGGRESSION?

Is there evidence to support the popular catharsis hypothesis, i.e., the notion that releasing aggressive tension through symbolic action reduces the likelihood of aggressive behaviour?

What are viable strategies to reduce individuals' tendencies to show aggressive behaviour?

It has become clear that aggression poses a serious threat to the health and well-being of individuals and the functioning of societies. Psychologists not only have to deal with the task of investigating how, when and why aggressive behaviour is shown, they are also under the obligation to think about ways of counteracting and preventing its occurrence.

Aggressive behaviour is ultimately performed by individual actors. Therefore, an important aim of intervention efforts is to reduce the probability that a person will show aggressive behaviour. Three main mechanisms have been explored by which aggressive behaviour may be prevented: catharsis, punishment and anger management.

Catharsis

According to a popular belief, releasing aggressive tension in symbolic ways, such as through sarcastic humour or acting aggressively in the virtual reality of a videogame, is a successful strategy for reducing aggression. This idea is referred to as the *catharsis* hypothesis after the idea of Greek tragedy that watching tragic conflict unfold and be resolved on stage leads to a purification or 'cleansing' of the emotions (pity and fear) and brings about spiritual renewal or release from tension in the spectators. However, empirical evidence shows that the symbolic engagement in aggressive thoughts or actions is not just ineffective but even counterproductive for reducing aggression. Several studies indicate that the imaginary performance of aggressive behaviour, such as in pretend play or watching media violence, is more likely to enhance aggression than to reduce it (Bushman, 2002; Bushman, Baumeister & Stack, 1999). These findings are explained with reference to the role of aggressive cues in enhancing the likelihood of aggressive behaviour: symbolic acts of aggression can be regarded as aggressive cues that prime hostile thoughts and feelings and thereby pave the way for aggressive behaviour. Thus, the idea of catharsis is a popular myth that can be refuted on the basis of empirical evidence.

catharsis release of aggressive tension through symbolic engagement in aggressive behaviour

fold and be resolved on stage leads to a purification or 'cleansing' of the emotions (pity and fear) and brings about spiritual renewal or release from tension in the spectators. However, empirical evidence shows that the symbolic engagement in aggressive thoughts or actions is not just ineffective but even counterproductive for reducing aggression. Several studies indicate that the imaginary performance of aggressive behaviour, such as in pretend play or watching media violence, is more likely to enhance aggression than to reduce it (Bushman, 2002; Bushman, Baumeister & Stack, 1999). These findings are explained with reference to the role of aggressive cues in enhancing the likelihood of aggressive behaviour: symbolic acts of aggression can be regarded as aggressive cues that prime hostile thoughts and feelings and thereby pave the way for aggressive behaviour. Thus, the idea of catharsis is a popular myth that can be refuted on the basis of empirical evidence.

Punishment

Explanations of aggression as a result of learning processes suggest that we should look at punishment as an effective mechanism to suppress the performance of aggressive behaviour. However, there is general consensus that punishment can only be expected to work if several conditions are met (e.g., Berkowitz, 1993): (1) anticipated punishment must be sufficiently adverse; (2) it must have a high probability of being imposed; (3) punishment can only exert a deterrent effect if the individual's negative arousal is not too strong to prevent him or her from calculating the costs of an aggressive response in advance in a rational manner; (4) punishment will only be effective if acceptable or attractive behavioural alternatives are available to the actor in the situation; and (5) punishment must follow immediately upon the transgression so that it is perceived as contingent upon the aggressive behaviour.

Table 8.3 Key elements of anger management training (based on Beck & Fernandez, 1998, p. 64)

Phase 1	<ul style="list-style-type: none"> • Identification of situational triggers which precipitate the onset of the anger response. • Rehearsal of self-statements intended to reframe the situation and facilitate healthy responses (e.g., 'I can handle this. It isn't important enough to blow up over this').
Phase 2	<ul style="list-style-type: none"> • Acquisition of relaxation skills. • Coupling cognitive self-statements with relaxation after exposure to anger triggers, with clients attempting to mentally and physically soothe themselves.
Phase 3	<ul style="list-style-type: none"> • Rehearsal phase. • Exposure to trigger utilizing imagery or role play. • Practising cognitive and relaxation techniques until the mental and physical responses can be achieved automatically and on cue.

Apart from the fact that the co-occurrence of these factors is relatively rare, critics have argued that punitive responses may in themselves instigate aggression by functioning as aggressive cues and may reinforce beliefs about the normative acceptability of aggressive behaviour. Punishment may also convey the message that the use of aggression is a viable strategy of conflict resolution. If it is to produce desirable consequences, punishment needs to be embedded into a more general approach towards instrumental learning in which the primary aim is to reward desirable rather than penalize undesirable behaviour (Coie & Dodge, 1998).

Anger management

As we have seen, anger and negative affective arousal play a key role in many expressions of aggressive behaviour. Therefore, training people to control their anger should be effective in reducing hostile aggression. The focus of anger management approaches is on (1) teaching aggressive individuals to understand the processes that lead to anger and (2) promoting anger control by helping them to identify internal cues and external conditions that trigger aggressive outbursts. The central tasks of *anger management training*, as summarized by Beck and Fernandez (1998), are presented in Table 8.3.

anger management training approach for preventing aggression by teaching aggressive individuals to control their anger and inhibit aggressive impulses

A meta-analysis of school-based interventions using anger management approaches to reduce aggressive behaviour obtained an overall weighted effect size of $d = .64$. This indicates that aggressive behaviour goes down substantially after anger management training compared to a control group (Robinson, Smith, Miller & Brownell, 1999). Thus, it seems that this strategy works well to reduce aggression among school populations. However,

anger management methods can only be expected to work with individuals who understand that their aggressive behaviour results from a failure to control their aggressive impulses and who are motivated to change their inadequate handling of these impulses. Studies including individuals with a history of violence or known to be at high risk for violent action, such as people convicted of violent crime, have found little evidence of the success of anger management approaches in promoting affect regulation and reducing violent behaviour (e.g., Watt & Howells, 1999). Therefore, one is left to conclude that the target groups who are most in need of learning effective anger control are most difficult to reach, or that anger management techniques are largely ineffective with violent offenders.

SUMMARY

Compared to the wealth of research into the causes and precipitating factors of aggressive behaviour, evidence on how to reduce it is limited. Contrary to popular wisdom, catharsis, i.e., acting out aggressive impulses in a symbolic or innocuous way, is counterproductive in reducing aggression. It leads to an increase rather than a decrease in aggressive responses. Punishment is an effective control strategy provided it is imposed swiftly after a transgression. Anger management approaches are designed to teach aggressive individuals to control their aggressive impulses, but they are effective only if the person is willing to cooperate.



SUMMARY AND CONCLUSIONS

- Aggressive behaviour is defined as behaviour carried out with the intention of harming another person. It can be a means to an end (instrumental aggression) or an expression of negative affect (affective or hostile aggression).
- Methods for studying aggressive behaviour include laboratory experiments, reports of aggressive behaviour from actors and observers, and the analysis of archival records.
- Theoretical approaches aimed at explaining aggressive behaviour include both biological and psychological lines of thinking and research. They share the assumption that the likelihood of aggressive behaviour depends on the operation of facilitating or inhibiting factors located within both the person and the environment.
- Individual differences in aggression show considerable stability from childhood to early adulthood. Dispositional aggressiveness and the hostile attribution bias have been linked to individual differences in aggression. Research on

gender differences in aggression has found that men are more physically aggressive than women, even though the difference is only moderate in size.

- Alcohol consumption and high temperatures have been identified as situational variables that exert a significant influence on the manifestation of aggressive behaviour. Studies examining the effect of violent media content have provided overall support for the proposed aggression-enhancing effect of media violence, including violent electronic games.
- Intimate partner violence is a widespread problem across the world. Studies using context-free frequency counts of aggressive acts show that men and women are equally likely to show aggressive behaviour against a partner. In contrast, crime statistics and studies taking context and consequences of aggressive acts into account show that men dominate as perpetrators and women as victims of intimate partner violence.
- Sexual violence is committed mostly by men against women, even though a few studies have documented same-sex sexual aggression and women's sexual aggression towards men. In the majority of cases, the assailant is someone previously known to the victim. The consequences of sexual victimization are severe, including negative reactions from others.
- School and workplace bullying are forms of aggressive behaviour characterized by an imbalance of power between aggressor and victim and often take place over extended periods of time.
- Imposing punishment and promoting anger management skills are strategies directed at the individual aggressor to prevent or reduce aggression.

Suggestions for further reading

- Anderson, C.A. & Bushman, B.J. (1997). External validity of 'trivial' experiments: The case of laboratory aggression. *Review of General Psychology*, 1, 19–41. Provides a thought-provoking analysis of the way in which different measurement strategies in aggression research complement and cross-validate each other.
- Anderson, C.A., Berkowitz, L., Donnerstein, E., Huesmann, L.R., Johnson, J.D., Linz, D., Malamuth, N.M. & Wartella, E. (2003). The influence of media violence on youth. *Psychological Science in the Public Interest*, 4, 81–110. Provides a comprehensive and critical review of the evidence on the influence of media violence on aggression, particularly among young media users.
- Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological*

Bulletin, 126, 651–680; Johnson, M.P. & Ferraro, K.J. (2000). Research on domestic violence in the 1990s: Making distinctions. *Journal of Marriage and the Family*, 62, 948–963. These two papers illustrate the intricacies of resolving the issue of gender differences in intimate partner violence.

Geen, R.G. (2001). *Human aggression* (2nd edn). Buckingham: Open University Press; Krahe, B. (2001). *The social psychology of aggression*. Hove: Psychology Press. Two textbooks that provide extensive and up-to-date coverage of theories, methods and main findings of social psychological research on aggressive behaviour.