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## CHAPTER 21

# Aggression

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## AGGRESSION

This chapter provides an overview of classic and contemporary aggression research. We begin by providing operational definitions of aggression and related constructs, followed by a discussion of the forms and functions of aggression. Next, we review theoretical perspectives that have influenced aggression researchers over the years. We then discuss the development of aggressive behavior, including its continuity over time. Later sections discuss the emergence of individual differences that predispose people to behave aggressively, situational factors that increase aggression, and the roles of emotion, cognition, and arousal in influencing aggression. The final section discusses research on how to prevent aggression and violence.

### Definitions of Aggression, Violence, and Antisocial Behavior

Laypeople and researchers often use the term *aggression* differently. Laypeople may describe a salesperson who tries hard to sell merchandise as aggressive. The salesperson does not, however, want to harm potential customers. Most social psychologists define human aggression as any behavior intended to harm another person who does not want to be harmed (Baron & Richardson, 1994; Bushman & Huesmann, 2010). This definition includes three important features. First, aggression is a behavior—you can see it. Aggression is not an emotion, such as anger.

Aggression is not a thought, such as mentally rehearsing a murder. You cannot behave aggressively by thinking, nor can you behave aggressively by feeling. A person can only behave aggressively by *doing* something. Second, aggression is intentional (not accidental), and the intent is to cause harm. For example, a dentist might intentionally give a patient a shot of Novocain (and the shot hurts!), but the goal is to help rather than to harm the patient. Third, the victim must be motivated to avoid the harm. Most people naturally wish to avoid harm from others, but this is not always the case. People who derive sexual pleasure from being beaten, choked, slapped, or spanked are not victims of aggression because they wish to experience harm from another person. Suicide is typically not considered a form of aggression because people inflict pain on themselves (and therefore are not sufficiently motivated to avoid the harm), though clinical researchers have begun to consider suicide as a form of self-aggression (McCloskey & Berman, 2003). People can behave aggressively without causing harm to others. For example, if a husband swings a bat at his wife and misses, he has still behaved aggressively even though he did not cause physical harm to his wife.

Laypeople and researchers also differ in their use of the term *violence*. A meteorologist might call a storm *violent* if it has intense winds, rain, thunder, and lightning. When researchers use the term, *violence* refers to aggression that has as its goal extreme physical harm, such as injury or death. The U.S. Federal Bureau of Investigation (FBI) classifies four crimes as “violent”: homicide, aggravated

assault, forcible rape, and robbery. Some criminologists define violence as an act that has a high probability of causing harm requiring medical attention. However, most aggression researchers would classify less serious acts as violence, such as slapping someone across the face with tremendous force. And some researchers classify some extreme forms of verbal aggression as emotional violence. In general, all violent acts are aggressive acts, but not all aggressive acts are violent (only those that are likely to cause extreme physical harm).

Antisocial behavior is a term that researchers have used in casual and somewhat inconsistent ways (though clinicians have offered more precise definitions). In general, it refers to behavior that either damages interpersonal relationships or is culturally undesirable. Aggression is often equated with antisocial behavior (e.g., American Psychiatric Association, 2000). Others have pointed out, however, that aggression is often a social as well as an antisocial strategy, in that it is a way that people seek to manage their social lives, such as by influencing the behavior of others so as to get their way (Tedeschi & Felson, 1994). Littering, cheating, stealing, and lying are behaviors that qualify as antisocial but may or may not involve aggression.

Aggression varies in its forms and functions. By forms we mean how the aggressive act is expressed, such as physically (e.g., hitting, kicking, stabbing, shooting) or verbally (e.g., yelling, screaming, swearing, name calling). In *displaced aggression*, a substitute aggression target is used (e.g., Marcus-Newhall, Pedersen, Carlson, & Miller, 2000). The substitute target is innocent of any wrong doing and just happens to be in wrong place at the wrong time. For example, a man is berated by his boss at work but does not retaliate. When he gets home, he yells at his daughter instead. In *triggered displaced aggression* the substitute target is not entirely innocent, but the target commits a minor or trivial offense (Pedersen, Gonzales, & Miller, 2000). For example, the man berated by his boss might yell at his daughter because she forgot to clean her room. Triggered displaced aggression is especially likely to occur when the aggressor ruminates about the initial offense (Bushman, Bonacci, Pedersen, Vasquez, & Miller, 2005), and when the aggressor does not like the substitute target, such as when the target is an outgroup member or has a personality flaw (e.g., Pedersen, Bushman, Vasquez, & Miller, 2008).

People displace aggression for two main reasons. First, directly aggressing against the source of provocation is often unfeasible because the source is unavailable (e.g., the provoker has left the area), or because the source is

an intangible entity (e.g., hot temperature). Second, fear of retaliation or punishment from the provoker inhibits direct aggression. For example, the man who was berated by his boss is reluctant to retaliate because he does not want to lose his job.

Different forms of aggression are expressed directly or indirectly. With *direct aggression*, the victim is physically present. With *indirect aggression*, the victim is absent. For example, physical aggression can be direct (e.g., hitting a person in the face) or indirect (e.g., burning a person's house down while they are on holiday). Likewise, verbal aggression can be direct (e.g., screaming in a person's face) or indirect (e.g., spreading rumors behind a person's back). Males are more likely than females to use direct aggression, whereas females are more likely than males to use indirect aggression (e.g., Lagerspetz, Bjorkqvist, & Peltonen, 1988).

Aggressive acts may also differ in their function or motivation. Consider two examples. In the first example, a husband finds his wife and her lover together in bed. He takes his rifle from the closet, and shoots and kills both individuals. In the second, a "hitman" uses a rifle to kill another person for money. The form of aggression is the same in both examples (i.e., physical aggression caused by shooting and killing victims with a rifle). However, the motives appear quite different. In the first example, the husband appears to be motivated by anger. He is enraged when he finds his wife making love to another man, so he shoots them both. In the second example, the "hitman" appears to be motivated by money. The "hitman" probably does not hate his victim. He might not even know his victim, but he kills the person anyway for the money.

To capture different functions or motives for aggression, psychologists make a distinction between reactive aggression (also called *hostile, affective, angry, impulsive, or retaliatory* aggression) and proactive aggression (also called *instrumental* aggression; e.g., Buss, 1961). *Reactive aggression* is "hot," impulsive, angry behavior that is motivated by a desire to harm someone. *Proactive aggression* is "cold," premeditated, calculated behavior that is motivated by some other goal (obtaining money, restoring one's image, restoring justice). Some researchers have argued that it is difficult (if not impossible) to distinguish between reactive and proactive aggression because they are highly correlated and because motives are often mixed (Bushman & Anderson, 2001). For example, what if the husband who finds his wife making love to another man instigates a deadly plan to slowly poison both individuals? Would this be reactive or proactive aggression? It

has elements of both types. Therefore, although the reactive/proactive distinction has proven useful, it is important to realize that this dichotomy cannot account for all aggressive acts.

An alternative approach is to characterize aggressive acts on multiple dimensions, including: how much the primary and the ultimate goal is to harm the victim versus benefit the perpetrator; amount of hostile or agitated affect present; and how much consequences were considered (Anderson & Huesmann, 2003).

### Theoretical Perspectives

Since its inception, the aggression literature has enjoyed a rich set of theoretical perspectives. These theories have offered frameworks from which hypotheses regarding the causes and consequences of aggression could be tested. Although each theory is distinct, several theories share a considerable degree of overlap. In what follows, we review seven main theories that have guided aggression research. They are reviewed largely in the chronological order in which they were formulated.

#### *Frustration-Aggression Theory*

In 1939, psychologists from Yale University published an important book titled *Frustration and Aggression* (Dollard, Doob, Miller, Mowrer, & Sears, 1939). In this book, partially as a reaction to the spreading influence of Freud's theory, the authors proposed that aggression resulted from frustration. They defined frustration as the blocking of goal directed behavior, such as when someone crowds in front of you in line. Their theory was summarized in two bold statements on the book's first page: (1) "the occurrence of aggressive behavior always presupposes the existence of frustration," and (2) "the existence of frustration always leads to some form of aggression" (Dollard et al., 1939, p. 1). In their view, frustration depended on an "expected" or "hoped for" goal being denied, and was not simply absence of achieving a goal. It was the first systematic theory of aggression, and was heavily influenced by psychoanalytic theory. It fit with essentialist perspectives of that historical period that argued that constructs must have certain characteristics and properties.

Frustration-aggression theory enjoyed early empirical support as a theory of aggression. In one classic paper, Hovland and Sears (1940) argued that people experience tremendous frustration when their goal for financial stability is thwarted. This frustration, they argued, will cause people to behave aggressively. To test this hypothesis, Hovland and Sears examined the association between the

value of cotton in the U.S. South and the number of African Americans who were murdered through lynching in the U.S. South. The value of cotton was chosen as a proxy of frustration because, at that period in U.S. history, lower cotton prices thwarted Southerners' goal of having financial stability. Consistent with frustration-aggression theory, there was a significant negative correlation between the price of cotton and the number of African Americans who were lynched, suggesting a relationship between experiencing greater frustration and more frequent acts of aggression and violence.

Several other studies have found support for frustration-aggression theory. When people's desire to get to their destination on time is thwarted, they are more likely to behave aggressively (Novaco, 1991). Unemployment, which frustrates a person's goal for financial stability, is also associated with greater aggression (Catalano, Novaco, & McConnell, 2002). More recent work has replicated and extended this pattern of results in Germany by showing that merely expecting to be unemployed in the future is enough to increase aggressive inclinations (Fischer, Greitemeyer, & Frey, 2008).

This theory seemed to explain a large amount of everyday occurrences of aggression, but it readily became apparent to the authors that not every frustration led to observable aggression. Miller (1941), one of the original authors, was the first to revise the theory. He explained that frustrations actually stimulate a number of different inclinations besides an inclination to aggress, such as an inclination to escape or to find a way around the obstacle to the goal. The inclination that eventually dominates, he theorized, is the one that is most successful in reducing frustration. In other words, people learn through experience to respond to frustrations with aggressive or nonaggressive responses. This idea opened the door for learning theory explanations of aggression.

#### *Learning Theories*

The earliest learning theory explanations for individual differences in human aggressiveness focused on operant and, to a lesser extent, classical conditioning processes. *Operant conditioning theory*, developed by behaviorists such as Edward Thorndike and B. F. Skinner, proposes that people are more likely to repeat behaviors that have been rewarded and are less likely to repeat behaviors that have been punished. *Classical conditioning theory*, developed by Ivan Pavlov, proposes that through repeated pairing of an unconditioned stimulus with a conditioned stimulus, the unconditioned stimulus eventually elicits a response similar to that elicited by

the conditioned stimulus. For example, dogs that hear a bell (conditioned stimulus) every time they receive meat powder (unconditioned stimulus) will eventually salivate when they hear the bell alone (conditioned response). Research showed that children could be taught to behave aggressively through *positive reinforcement*—adding pleasure (Cowan & Walters, 1963) or *negative reinforcement*—subtracting pain (Patterson, Littman, & Bricker, 1967). Children not only learn to behave aggressively, they also learn to discriminate between situations when aggression pays and when it does not. Through stimulus generalization they apply what they have learned to new situations (Sears, Whiting, Nowlis, & Sears, 1953). Taken together these processes explained how aggressive behavior could be learned (Eron, Walder, & Lefkowitz, 1971).

By the early 1960s, it became clear that conditioning by itself could not fully explain individual differences in aggression. Bandura theorized that the more powerful learning processes in understanding social behavior (including aggression) were *observational learning* or *imitation* (also called *social learning*) (e.g., Bandura, 1977) in which people learn how to behave aggressively by observing and imitating others. In several classic experiments, he showed that young children imitated specific aggressive acts they observed in aggressive models, for example, hitting a “bobo” doll that they had seen an actor hit. Furthermore, he developed the concept of *vicarious learning* of aggression by showing that children were especially likely to imitate models that had been rewarded for behaving aggressively (Bandura, 1965; Bandura, Ross, & Ross, 1963). Bandura argued that imitation was the key to social learning. The idea is that people do not just imitate the specific social behaviors they see, but they make cognitive inferences based on the observations, and these inferences lead to generalizations in behavior. What is important is how the child interprets social events, and how competent the child feels in responding in different ways (Bandura, 1986). These cognitions provide a basis for stability of behavior tendencies across a variety of situations. Watching one parent hit the other parent not only increases a child’s likelihood of hitting, but it also increases the child’s belief that hitting is okay when someone provokes you.

Other work has supported social learning theory by showing that reinforcing people for behaving aggressively not only increases their sense of reward they receive from aggression, but it also increases their feelings of confidence that they have what it takes to successfully carry out an aggressive act (Perry, Perry, & Rasmussen, 1986).

### *Excitation-Transfer Theory*

Excitation-transfer theory (Zillmann, 1979) assumes that physiological arousal, however produced, dissipates slowly. If two arousing events are separated by a short amount of time, some of the arousal caused by the first event may transfer to the second event and add to the arousal caused by the second event. In other words, arousal from the first event may be misattributed to the second event. If the second event is related to anger (or any other emotional state), then the additional arousal should make the person even angrier. The notion of excitation transfer also suggests that anger may be extended over long periods of time, if the person has attributed their heightened arousal to anger. Thus, even after the arousal has dissipated the observer may remain ready to aggress for as long as the self-generated label of anger persists.

In one experiment, participants completed a task meant to increase their arousal (i.e., riding an exercise bike) or not to increase their arousal (i.e., threading discs onto a wire) (Zillmann & Bryant, 1974). Afterward, participants were insulted or not insulted by a confederate and then had the opportunity to behave aggressively toward the confederate by giving him electric shocks. Participants who were both aroused and provoked behaved more aggressively than all other participants, presumably because they “transferred” their initial levels of arousal from the bicycle to the provoking situation.

According to excitation-transfer theory, one reason why people behave aggressively is that they transfer their arousal from one situation to another person, making them more reactive. This line of reasoning jibes with earlier drive theories, which stated that arousal energizes behavioral tendencies in conjunction with a person’s learning history (Hebb, 1955). Within the context of aggression, experiencing arousal, regardless of its initial relation to aggression, can energize later aggressive behavioral tendencies toward another person.

### *Information-Processing Theories*

The introduction of ideas from cognitive psychology into theorizing about aggression was given another boost in the early 1980s with the formulation of two cognitive information-processing models. One model focused particularly on scripts, beliefs, and observational learning (Huesmann, 1982). In a play or movie, scripts tell actors or actresses what to say and do. In memory, *scripts* define situations and guide behavior: The person first selects a script to represent the situation and then assumes a role in the script. One example is a restaurant script (i.e., enter restaurant, go to table, look at menu, order food, eat food, pay for

food, leave tip, exit restaurant; see Abelson, 1981). People learn scripts by direct experience or by observing others (e.g., parents, siblings, peers, mass media characters).

The second model focused particularly on perceptions and attributions (Dodge, 1980). *Attributions* are the explanations people make about why others behave the way they do. For example, if a person bumps into you, a hostile attribution would be that the person did it on purpose to hurt you. Meta-analytic evidence suggests that having a hostile attribution bias is a reliable predictor of aggression (Orbio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002).

### **Cognitive Neoassociation Theory**

Berkowitz (1989, 1990) proposed that aversive events such as frustrations, provocations, loud noises, uncomfortable temperatures, and unpleasant odors, produce negative affect. Negative affect produced by unpleasant experiences automatically stimulates various thoughts, memories, expressive motor reactions, and physiological responses associated with *both* fight and flight tendencies. The fight associations give rise to rudimentary feelings of anger, whereas the flight associations give rise to rudimentary feelings of fear. Furthermore, cognitive neoassociation theory assumes that cues present during an aversive event become associated with the event and with the thoughts, memories, expressive motor reactions, and physiological responses triggered by the event. In short, the theory includes the learning mechanisms identified by the learning tradition. It also is directed primarily at explaining affective aggression.

Cognitive neoassociation theory also includes higher order cognitive processes, such as appraisal and attribution processes. If people are motivated to do so, they may use higher order cognitive processes to further analyze their situation. For example, they might think about how they feel, make causal attributions for what led them to feel this way, and consider the consequences of acting on their feelings. This more deliberate thought produces more clearly differentiated feelings of anger, fear, or both. It can also suppress or enhance the action-tendencies associated with these feelings.

Cognitive neoassociation theory not only subsumes the frustration-aggression hypothesis, but it also provides a causal mechanism for explaining why aversive events increase aggressive inclinations, that is, via negative affect.

### **General Aggression Model**

The General Aggression Model (GAM; Anderson & Bushman, 2002; DeWall, Anderson, & Bushman, 2011)

integrates these previous theories in into a parsimonious, unified framework. It simultaneously incorporates biological, personality development, social processes, basic cognitive processes (e.g., perception, priming), short-term and long-term processes, and decision processes into understanding aggression.

GAM argues for a flexible understanding of aggression based on a knowledge structure approach (Bushman & Anderson, 2001). Knowledge structures refer to how people perceive their environment, other people, expectations regarding how likely various outcomes are to occur, knowledge and beliefs about how people typically respond in various situations, and how much people believe they can respond to a variety of events. GAM focuses heavily on how the development and use of knowledge structures influence both early (e.g., basic visual perception) and downstream (e.g., attributions, judgments, decisions, and behaviors) psychological processes (e.g., Wegner & Bargh, 1998).

GAM emphasizes three critical stages in understanding a single episodic cycle of aggression: (1) person and situation inputs, (2) present internal states (i.e., cognition, arousal, affect, including brain activity), and (3) outcomes of appraisal and decision-making processes. A feedback loop influences future cycles of aggression, which produce a violence escalation cycle (Anderson, Buckley, & Carnagey, 2008). See Figures 21.1 and 21.2 for illustrations of the basic tenets of GAM and the violence escalation cycle, respectively.

GAM argues that different forms of aggression can be distinguished in terms of proximate and ultimate goals. Proximate goals provide the most direct guiding force behind aggression and violence. In contrast, ultimate goals provide an explanation as to how a certain behavior may aid the organism in satisfying goals for survival and reproduction (see Tooby & Cosmides, 1992). Angry people may behave aggressively due to a proximal goal of wanting to feel better (e.g., Bushman, Baumeister, & Phillips, 2001), but their aggression may also function to protect themselves or close others from threat, thereby increasing the likelihood that their genes will be passed on to future generations.

Using the knowledge structure approach, GAM can categorize any violent or aggressive behavior according to four dimensions. The first dimension is how much hostile or agitated affect is present. The second dimension is how much a specific thought, feeling, or action has become automatized. The third dimension is how much the primary (ultimate) goal is to harm the victim compared to benefitting the perpetrator. The fourth dimension is

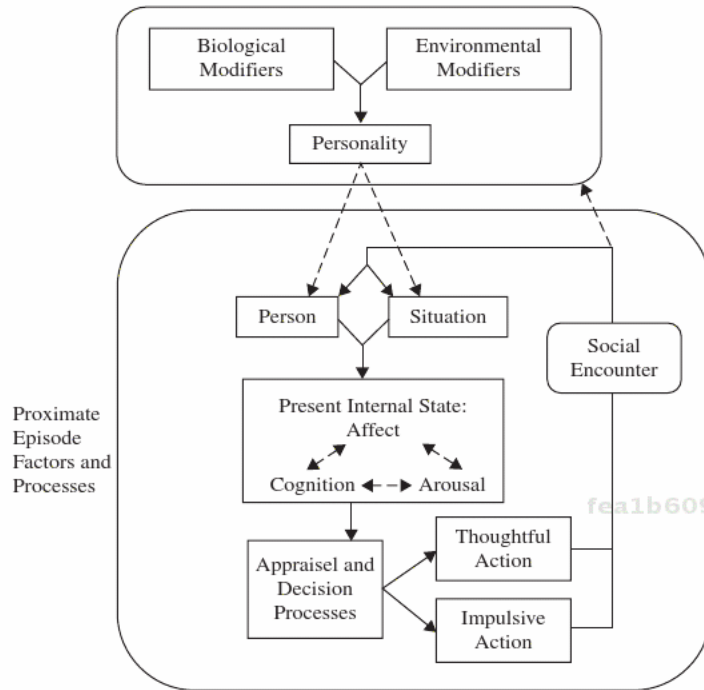


Figure 21.1 General aggression model

how much the perpetrator considers the consequences of committing the aggressive act.

### I<sup>3</sup> Theory

I<sup>3</sup> Theory (pronounced “I-cubed theory”) is the most recent of the reviewed theoretical perspectives on

aggression (Finkel, 2008; Finkel & Eckhardt, in press). I<sup>3</sup> Theory is a new, broad meta-theory of aggression that imposes theoretical coherence on the massive number of established risk factors for aggression. Of the reviewed theories, it gives the most emphasis to self-control processes. Specifically, I<sup>3</sup> Theory emphasizes the underlying *process* (or processes) through which risk factors promote aggression.

I<sup>3</sup> Theory identifies three processes: *Instigation*, *Impellance*, and *Inhibition* (with the italicized vowels representing the three *I*s in I<sup>3</sup> Theory). Instigating factors are discrete social dynamics that frequently increase an aggressive urge. Examples of instigating factors are social rejection and provocation. Impellers are factors that predispose people to experience strong aggressive urges in the presence of an instigator. Examples of impelling factors are dispositional anger and physical aggressiveness. Inhibiting factors refer to individual difference or situational features that diminish the likelihood of an aggressive urge being translated into an actual aggressive act. Examples of inhibiting factors are having adequate self-control resources or energy and high levels of relationship commitment.

Using conceptual and statistical tools of moderation as a guiding framework, I<sup>3</sup> Theory examines how the instigating, impelling, and inhibiting factors combine additively and interactively to increase or decrease

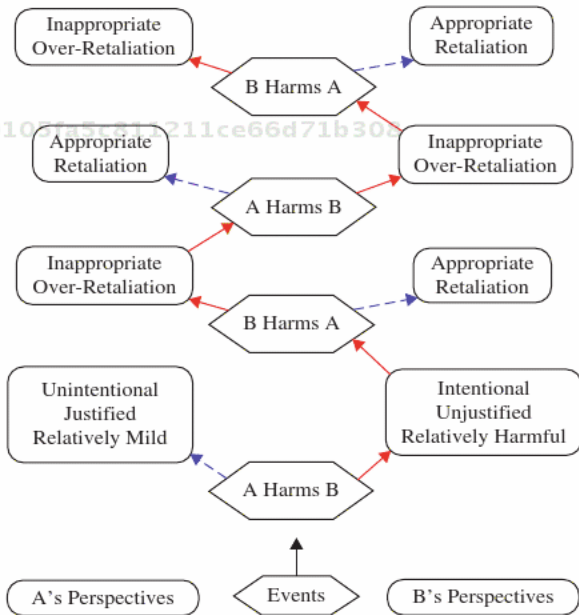


Figure 21.2 The violence escalation cycle

From Anderson & Carnagey, 2004. Reprinted by permission.

the likelihood of aggression. According to I<sup>3</sup> Theory, aggression should be most likely to occur when instigators and impellers are high and when inhibiting factors are low. For example, an instigating factor such as provocation may increase aggression primarily among people who are high in an impelling factor such as trait anger. The interaction between provocation and trait anger may be especially pronounced among people who lack inhibition, such as people who have low levels of self-control resources to override an aggressive urge. The implication is that high instigating and impelling factors increase the strength of the aggressive urge and a lack of inhibiting factors provides a weak tendency to override the urge, thereby leading people to behave aggressively.

### DEVELOPMENT OF AGGRESSION AND STABILITY OVER TIME

When are people the most aggressive in their lives? Multiple longitudinal studies have shown that people are more aggressive between ages 1 and 3 than at any other time in their lives (e.g., Cote, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006; Tremblay et al., 2004). Tremblay (2000) has shown that in daycare settings, one out of four interactions that children have involves aggression. That frequency of aggression in one's daily interactions exceeds the amount of aggression among prison inmates and gang members. (To be sure, aggression at daycare results in lower levels of injuries compared to aggression in prison and between gang members.) Aggression declines substantially after age 3, which is when children learn to inhibit their aggression. Although aggression tends to decline with age, a small subset of people continue to behave aggressively as they become older. The majority of violent crimes in the United States are committed by people who are between the ages of 15 and 30 (U.S. Department of Justice, 2011).

Although absolute frequency of aggression tends to decrease as people grow older, relative frequency is very stable over time. Aggressive children tend to become aggressive adolescents, and aggressive adolescents tend to become aggressive adults (see Bushman & Huesmann, 2010, for a review). The consistency of aggression over time is approximately the same as intelligence, explaining approximately 36% of a person's aggressive behavior over a 10-year period (Olweus, 1979). That is, if a researcher wants to predict another person's aggression in 10 years, around a third of the variance in that person's aggression can be predicted from his or her current level

of aggression. Thus, people tend to become less aggressive as they mature, but their aggression rate relative to others of the same age will remain relatively consistent over time.

### INDIVIDUAL DIFFERENCES

Individual difference factors refer to dispositions that people bring with them to situations. They include sex, personality traits, attitudes, beliefs, values, and genetic predispositions. They are generally enduring features of the person, remaining consistent over time and across different situations.

*Sex differences in aggression.* Males are generally more aggressive than females. These gender differences emerge in early childhood and persist over the lifespan, especially for extremely violent crimes (e.g., Loeber & Hay, 1997). But females also show an assortment of aggressive behaviors. Young girls show levels of relational aggression and indirect aggression that exceed levels shown by young boys (Crick & Grotpeter, 1995; Rys & Bear, 1997). Although men generally show higher levels of physical aggression compared to women, these gender differences disappear under conditions of high provocation (Bettencourt & Miller, 1996).

*Narcissism and self-esteem.* Self-views can also influence aggression. Intuitively, one might expect that having positive self-views would reduce the chances that a person would behave aggressively against others, whereas people with negative self-views would behave aggressively to make themselves feel better. Contradicting this intuitive prediction, people with extremely high and unstable *positive self-views* are at greatest risk of behaving aggressively. People with unstable high self-esteem report heightened levels of anger and hostility (Kernis, Grannemann, & Barclay, 1989). People scoring highly on narcissism, a personality trait marked by inflated and grandiose positive self-views, behave very aggressively in response to provocation, an effect that is especially pronounced among people with high self-esteem (Bushman & Baumeister, 1998; Bushman et al., 2009). People high in narcissistic entitlement, who believe they deserve respect and special treatment from others, also behave very aggressively and antisocially (e.g., blasting strangers with intense and prolonged blasts of noise, stealing candy from small children) (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004). These findings suggest that extremely high and unstable positive self-views predispose people to behave aggressively.

*Trait anger.* Of the many individual difference variables that predispose people to behave aggressively, few are more reliable and potent than trait anger. People who are high in trait anger, compared to those low in trait anger, are hypersensitive to provocation. When provoked, high trait anger people express heightened intentions to behave aggressively (Bettencourt, Talley, Benjamin, & Valentine, 2006). They show elevated levels of systolic and diastolic blood pressure (Suls & Wan, 1993). And they show increased activation in the left dorsal anterior cingulate cortex, which is a region implicated in the experience of anger and physical pain (Denson, Pedersen, Ronquillo, & Nandy, 2009).

*Trait self-control, executive functioning, and IQ.* Self-control, defined as overriding an impulse to remain in agreement with personal and social standards for appropriate responding (Baumeister, Heatherton, & Tice, 1994), is intimately linked to aggression. In their influential book *A General Theory of Crime*, Gottfredson and Hirschi (1990) argue that poor self-control is among the strongest predictors of crime. Indeed, meta-analytic findings have shown that poor self-control has an average correlation of  $r = .27$  on criminal behavior, leading researchers to suggest that poor self-control qualifies as “one of the strongest known correlates of crime” (Pratt & Cullen, 2000, p. 952). Psychological studies have also shown that individual differences in self-control processes reliably predict aggression. Children with better self-control tend to behave less aggressively as young adults (Moffitt et al., 2011). Adolescents with better self-control report engaging in fewer acts of intimate partner violence (Finkel, DeWall, Slotter, Oaten, & Foshee, 2009). College students with better self-control report having fewer aggressive conflicts toward strangers and close relationship partners (Derefinco, DeWall, Metze, Walsh, & Lynam, 2011; Tangney, Baumeister, & Boone, 2004).

Executive functioning is quite similar to trait self-control, in that both primarily involve overriding automatic urges to remain in agreement with standards for what is appropriate in a given situation. Low executive functioning is associated with greater aggression (Hawkins & Trobst, 2000; Stevens, Kaplan, & Hesselbrock, 2003). The average size of effect regarding the relationship between low executive functioning and higher aggression is “medium” to “large” (Morgan & Lilienfeld, 2000).

Relatively little research has investigated the relationship between intelligence and aggression, but existing research suggests that lower intelligence is associated with higher aggression. Children with a low intelligence quotient tend to display higher levels of aggression (e.g.,

Lynam, Moffitt, & Stouthamer-Loeber, 1993). The relationship between low intelligence and higher aggression may also depend on self-control. In one study, children with low verbal intelligence were more likely to be rated as highly aggressive, especially those children with poor self-control (Ayduk, Rodriguez, Mischel, Shoda, & Wright, 2007).

*Five-Factor Model.* Perhaps the most widely established model of personality is the Five-Factor Model (FFM; e.g., Goldberg, 1993), which argues that personality can be explained in terms of five broadly defined personality traits: neuroticism (i.e., negative affect and emotions, emotional instability), extraversion (i.e., positive emotions and behaviors such as sociability), conscientiousness (i.e., being adept at impulse control), agreeableness (i.e., being affiliative and prosocial), and openness to experience (i.e., curiosity, fantasy). Of these five personality traits, three are most reliably related to aggression: neuroticism (positive relation), conscientiousness (negative relation), and agreeableness (negative relation) (Caprara, Barbaranelli, & Zimbardo, 1996; Egan, 2009; Hines & Saudino, 2008; Miller, Lynam, & Leukefeld, 2003). Other work has shown that combinations of these three personality traits provide the strongest predisposition toward aggression. For example, a combination of high neuroticism, low agreeableness, and low conscientiousness is associated with elevated levels of aggressive and violent behavior (Blonigen & Krueger, 2007). Many of these basic personality effects on aggression and violence are mediated by their effects on aggressive emotions and aggressive attitudes (Barlett & Anderson, in press).

*Psychopathy/conduct disorder.* Psychopathy is a disorder marked by being callous and unemotional (primary factor) and impulsive/antisocial (secondary factor) (Hare et al., 1990). Thus, psychopaths tend to engage in cold, calculated, unemotional, and premeditated proactive aggression (Nouvion, Cherek, Lane, Tcheremissine, & Lieving, 2007). Despite the stereotype of the psychopathic murderer, most people who commit murder are not psychopathic (Williamson, Hare, & Wong, 1987). Because most murders occur as a result of fits of rage, they tend not to fit the profile of the psychopath. Nonetheless, psychopathic traits can be considered a risk factor for aggression.

*Testosterone.* Both males and females have testosterone, but males have about 10 times more of it. Testosterone levels peak during puberty and decline while people are in their mid-twenties—the age group that commits the most violent crimes (U.S. Department of Justice, 2011). Testosterone is robustly associated with higher aggression. People with elevated testosterone levels tend

to show heightened levels of a variety of types of aggression (Archer, 1991). In addition, higher testosterone levels have the long-term effect of changing a person's body to become more adept at dominating others through aggression, such as by increasing physical strength and height (Cosmides & Tooby, 2006). When people experience dominance over others, their testosterone also tends to increase (e.g., Gladue, Boechler, & McCaul, 1989).

*Genetic predispositions.* There are two significant lines of evidence that demonstrate the role of genetics in predisposing people to behave aggressively. First, aggression is heritable. Research shows that heritability explains between 26% and 32% of aggression in children (Tuvblad, Raine, Zheng, & Baker, 2009). These findings offer some explanation regarding why aggression and antisocial behavior appear to "run in families."

Second, people who have various single nucleotide polymorphisms (SNPs) appear predisposed to aggression. Two of the most widely studied genes are a polymorphism in the promoter of the monoamine oxidase A gene (MAOA) and genetic variations in the serotonin transporter gene (5-HT). The MAOA gene is sometimes referred to as the "warrior gene" because of its robust relationship to aggression and antisocial behavior, whereas the 5-HT gene helps transport the "feel good" serotonin transmitter. When people do not feel good, they are more prone to behave aggressively. In one illustrative study, provoked male participants with the low expression allele of the MAOA gene, compared to provoked male participants with the high expression allele, doled out significantly more amounts of hot sauce to someone who expressed dislike for spicy foods (McDermott, Tingley, Cowden, Frazzetto, & Johnson, 2009).

Furthermore, environmental factors interact with the MAOA gene in producing violence-prone individuals. One study examined the interaction between alleles of the MAOA gene and childhood maltreatment on later antisocial outcomes (Caspi et al., 2002). For all antisocial outcomes, the association between maltreatment and antisocial behavior was conditional on the MAOA genotype. Just 12% of the sample had both the genetic risk (low-activity MAOA levels) and maltreatment, but they accounted for 44% of the total convictions for violent crime. In the absence of maltreatment, the genotypic risk factor did not manifest itself behaviorally.

## SITUATIONAL FACTORS

Aggression does not occur in a vacuum. Features of the situation also influence aggression. This section reviews

evidence regarding the importance of situational factors in predicting aggression.

*Social rejection.* People have a fundamental need for positive and lasting relationships (Baumeister & Leary, 1995). A growing body of work has shown that experimental manipulations of social rejection increase aggressive behavior against the rejectors and even against innocent bystanders (e.g., see DeWall & Bushman, 2011, for a review). A case study of 15 school shooters indicated that social rejection was present in all but two cases, more than any other risk factor (Leary, Kowalski, Smith, & Phillips, 2003). Overall, findings clearly point to social rejection as a situational factor that causes people to engage in direct and displaced aggression.

*Violent media.* Violent media are ubiquitous. People watch violent movies, play violent video games, and witness violent actions on television shows more today than ever before. Exposure to violent media, compared to nonviolent media, causes people to behave more aggressively and less prosocially (e.g., see Anderson et al., 2010, for a review). The overall effect size for the relationship between media violence and aggression exceeds the effect size for the link between homework and academic achievement, passive smoking and lung cancer, and calcium intake and bone mass, among several others (Bushman & Anderson, 2001). Exposure to violent media also causes people to become desensitized to violence (Bailey, West, & Anderson, 2011; Bartholow, Bushman, & Sestir, 2006; Carnagey, Anderson, & Bushman, 2007). Moreover, this desensitization to violence mediates the relationship between exposure to violent media and aggression (Engelhardt, Bartholow, Kerr, & Bushman, in press). People generally have strong inhibitions against behaving aggressively. Exposure to violence decreases these inhibitions, making people numb to the violence and therefore increases the likelihood of aggression.

*Provocation.* Social rejection is one form of interpersonal provocation. Another type of interpersonal provocation that increases aggression is insult or ego-threat. When people experience provocation, they are more likely to behave aggressively (see Bettencourt et al., 2006, for a review). Indeed, provocation is perhaps the most important single cause of aggression (Anderson & Bushman, 2002).

*Aggressive cues.* Psychologists have devoted their attention primarily to the effect of one type of aggressive cue—a weapon—on aggression. People own weapons for many reasons, including self-defense and sporting events (e.g., hunting, competitive shooting). Being in the presence of weapons is also enough to increase

aggressive behavior. In one classic experiment, participants were given the opportunity to behave aggressively toward another person while in the presence of either two weapons (i.e., a rifle and a revolver) or two badminton rackets (Berkowitz & LePage, 1967). Exposure to weapons, compared to badminton rackets, caused participants to behave more aggressively toward an annoying person. Weapons did not increase aggression toward a person who was not annoying. Further research has shown that exposure to weapons increases aggressive cognition (Anderson, Benjamin, & Bartholow, 1998).

*Alcohol.* Alcohol intoxication is involved in at least 50% of all violent crimes (e.g., Innes, 1988). Laboratory experiments have shown that alcohol intoxication increases aggression among both men and women (Giancola et al., 2009). In naturalistic field studies, acute alcohol consumption is involved in at least one-third of murders, aggravated assaults, forcible rapes, and intimate partner violence incidents (Greenfeld & Henneberg, 2001). Simply seeing alcohol-related stimuli is enough to increase aggressive cognition and behavior (Bartholow & Heinz, 2006). Alcohol does not cause everyone to become aggressive. Instead, it reduces inhibitions, increasing aggression among people who are generally predisposed to behave aggressively (Giancola, 2000). Thus, alcohol consistently causes people to behave more aggressively inside and outside the laboratory, but this increased aggression is most reliably present in people who are predisposed to behave aggressively.

*Physical pain.* Physical pain increases aggression in humans (e.g., Berkowitz, Cochran, & Embree, 1981) and nonhuman animals (e.g., O'Kelly & Steckle, 1939). In one investigation, participants who kept one hand in a bucket of painfully cold water, compared to those who kept a hand in a bucket of warm water, behaved more aggressively toward an innocent bystander (Berkowitz et al., 1981).

*Hot temperatures.* Hot temperatures reliably increase aggression. Actual hot temperatures increase aggressive thoughts, angry feelings, and aggressive behaviors (e.g., Anderson, 1989, 2001). For example, major league pitchers hit more batters with their pitches on hot days than on cooler days (Reifman, Larrick, & Fein, 1991), riots occur more frequently in hotter temperatures than in cooler temperatures (Carlsmith & Anderson, 1979), hotter geographical regions have more violence than do cooler geographical regions (Anderson, 1989), and violent crimes (but not nonviolent crimes) are higher during hotter years than during cooler years, and during hotter summers than during cooler summers (Anderson, Bushman, & Groom,

1997), even after potential confounding variables are controlled (e.g., poverty, age). People need not experience hot temperatures directly to increase aggression-related outcomes. For example, priming people with words related to hot temperatures, compared to words related to cold temperatures or neutral words, increases their aggressive thoughts and hostile perceptions (DeWall & Bushman, 2009).

*Intangible entities (e.g., bad odors, noise).* Many times people experience unpleasantness due to intangible entities, such as bad odors and noise. Although a person cannot behave aggressively toward these intangible entities, these triggers can increase aggression. For example, participants who sat in a room filled with a putrid odor (i.e., ammonium sulfide), compared to only a mildly unpleasant odor (i.e., ethyl mercaptan), gave more intense electric shocks to punish a confederate's errors on a learning task (Rotton, Frey, Barry, Milligan, & Fitzpatrick, 1979). Similar relationships between foul odors and aggression have been observed in relation to secondhand smoke (Jones & Bogat, 1978) and air pollution (Rotton & Frey, 1985).

Exposure to noxious noise also increases aggression. As with the relationship between alcohol and aggression, exposure to noxious noise does not increase aggression for everyone. When people feel a lack of control over the noise, they tend to behave quite aggressively (Geen & McCown, 1984). When control over the noise is restored, aggression diminishes (Warburton, Williams, & Cairns, 2006). The relationship between noxious noise and aggression is most pronounced when people are exposed to other situational events known to increase aggression, such as provocation (Donnerstein & Wilson, 1976) and violent media (Geen & O'Neal, 1969).

*Ego depletion.* Just as self-control, impulsivity, and executive functioning can differ between people, they can also differ within people. The limited resource model of self-control argues that people have a finite capacity to exert self-control (Baumeister, Bratslavsky, Muraven, & Tice, 1998). When people exert self-control on an initial task, it saps their self-control resources, leading to subpar performance on subsequent self-control tasks. This effect, dubbed *ego depletion*, is closely linked to aggression. When people experience an aggressive urge, they use self-control to override it. In the absence of the required self-control resources needed to override the aggressive urge, people tend to behave aggressively.

Ego depletion increases aggression toward both strangers (DeWall, Baumeister, Stillman, & Gailliot, 2007) and romantic relationship partners (Finkel et al., 2009). Crucially, ego depletion only increases aggression

when an aggressive urge has been stimulated, suggesting that self-control resources are needed to override such urges.

*Anonymity.* To have anonymity means that people's thoughts, feelings, and actions are not publicly associated with their identity. When people's identities are hidden, they behave more aggressively than when their actions are publicly associated with their identity (Diener, Fraser, Beaman, & Kelem, 1976). For example, wearing a hood covering one's face caused participants to deliver more intense shocks to another person compared to participants who wore no hood (Zimbardo, 1969). Outside of the laboratory, anonymity also increases extreme violence. In a study of 500 violent attacks in Northern Ireland, 41% (206) occurred when the perpetrator hid his or her identity (Silke, 2003). One reason why anonymity increases aggression is that people experience a state of deindividuation, which is characterized by a loss of restraints that normally curb behaviors when people are seen or attended to as individuals (Zimbardo, 1969).

## EMOTION, COGNITION, AND AROUSAL

Whereas the previous sections focused on individual difference and situational factors that may influence aggression, the current section reviews evidence regarding internal states that can increase or decrease aggression. Specifically, we focus on the relationship between emotion, cognition, and arousal on aggression.

*Emotion.* How people feel influences their likelihood to behave aggressively. Many situational factors that increase aggressive behavior also increase negative and aggressive affect. Exposure to violent media and hot temperatures, for example, increase aggressive feelings (Anderson et al., 2010; Anderson, Anderson, & Deuser, 1996). Social rejection can also increase anger (Leary, Twenge, & Quinlivan, 2006). Anger is commonly regarded as a precursor to aggression, but it increases aggression primarily through reducing inhibitions, increasing attention to aggressive cues, and serving as an information cue about potential threats (see Berkowitz, 2001).

Whereas dominant theories of aggression have focused primarily on emotional states that increase aggression (e.g., Anderson & Bushman, 2002; Berkowitz, 1990), there is some research on the role of emotions in lowering aggression. Empathy, defined as taking another person's perspective and having concern for him or her, relates to lower aggression (Giancola, 2003). Gratitude also reduces aggression, especially in situations in which

people experience provocation (DeWall, Lambert, Pond, Kashdan, & Fincham, 2012).

How people expect to feel is also crucial in predicting their aggressive behavior. Recent theoretical and meta-analytic work suggests that how people expect to feel may be a more reliable predictor of their behavior than how they currently feel (Baumeister, Vohs, DeWall, & Zhang, 2007). For example, angered people who believe that they can improve their mood tend to behave quite aggressively, but angered people who believe that they cannot change their mood do not (Bushman et al., 2001). Like a moth drawn to flame, angered people who chronically believe that expressing anger extinguishes negative feelings are most likely to choose to play violent video games (Bushman & Whitaker, 2010).

Motivational direction – approach versus avoidance – also helps explain how emotion influences aggression. Aggression is an approach-related behavior and therefore approach-related emotional states (even those that are positive) may increase aggression. In contrast, avoidance-related emotional states (even those that are negative) may decrease aggression. These predictions have been confirmed in several studies (e.g., see Carver & Harmon-Jones, 2009, for a review). For example, anger increases activation in the left prefrontal cortex and increases aggression, whereas anxiety increases activation in the right prefrontal cortex and decreases aggression (see Carver & Harmon-Jones for a review). Other work has shown that disgust sensitivity, an emotion marked by behavioral avoidance, is associated with lower levels of aggression (Pond et al., 2012).

Thus, the aggression literature is at an exciting transitional point in terms of understanding the relationship between emotion and aggression. Whereas the majority of previous aggression research has focused on negative emotions, recent research has emphasized the importance of anticipated emotions, emotions that mitigate against aggression, and considering the motivational direction of an emotion instead of its valence.

*Cognition.* Like unpleasant feelings (e.g., anger, frustration), aggressive cognitions hold a prominent place in many theories of aggression. A number of external triggers (e.g., guns, alcohol, temperature, media violence) heighten accessibility of aggressive thoughts. Aggressive thoughts, in turn, increase the likelihood of aggressive behaviors, either through simple priming (Bartholow, Anderson, Carnagey, & Benjamin, 2005), their place in aggressive behavioral scripts (e.g., Huesmann, 1998), or by biasing their interpretation of others' behaviors (e.g., Dodge, 1986).

**Arousal.** Arousal, whether it is physiological or psychological, is closely linked to aggression. As noted above, arousal plays a crucial role in excitation-transfer theory (Zillmann, 1979). When people are aroused, they rely on dominant action tendencies. In cases where people have experienced provocation, for example, arousal is associated with higher levels of aggression (Geen & O’Neal, 1969). Crucially, how people become aroused is irrelevant to whether they will behave aggressively. Arousal helps explain why certain individual difference and situational factors increase aggression. When people watch pornography or masturbate, for example, they become aroused, which in turn increases their aggression and antisocial tendencies (Ariely & Loewenstein, 2006; Donnerstein & Barrett, 1978; Jaffe, Malamuth, Feingold, & Feshbach, 1974). If arousal is excessive, it is perceived as unpleasant, and may increase aggression in the same way as other aversive events, by increasing negative affect or by priming aggressive cognitions.

Although the relationship between arousal and aggression may appear clear, there is also some evidence that *lower* levels of arousal may relate to higher aggression. Theoretically, people with lower levels of arousal may lack an inhibitory force that can reduce the likelihood of aggression (Raine, 1996). In one study, men who showed diminished sensitivity to their wives’ expressions of happiness (an indicator of reduced arousal) perpetrated more violence compared to men who showed high sensitivity to their spouse’s emotional expressions (Marshall & Holtzworth-Munroe, 2010). People who show diminished arousal to a stressful situation are also most likely to be imprisoned criminals or are generally aggressive (Brennan et al., 1997; Raine, 1996).

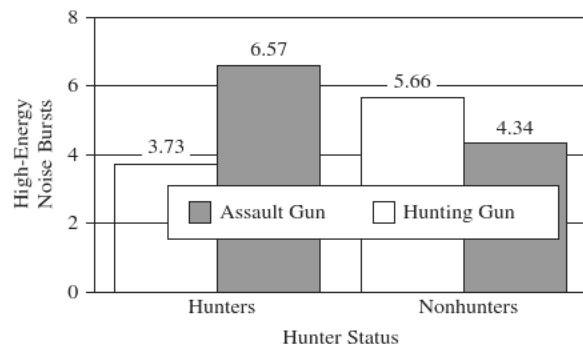
These findings suggest a somewhat complicated portrait of the relationship between arousal and aggression. Higher state levels of arousal, whether experienced through diverse activities such as riding an exercise bike or masturbating, can increase aggression. But lacking a normal arousal response to stressful or emotion-provoking situations (i.e., low trait arousal) can also increase one’s risk for engaging in aggressive or antisocial behavior, much like being desensitized to violence via scenes of violence in the mass media.

**INTERACTIONS AMONG RISK FACTORS**

In the previous sections on individual difference and situational risk factors, we focused on the overall effects on aggression and violence. However, in many cases—too

many to describe in one summary chapter—one risk or protective factor can moderate the effect of another risk factor. These moderating effects show up as statistical interactions. In some cases, the interactions are between biological factors and family environments. For example, the maltreatment in childhood increases the likelihood of antisocial personality disorder in adulthood, but this effect is significantly stronger among those who have the genotype that confers low MAOA activity (Kim-Cohen et al., 2006).

In other cases, life experiences interact with situational factors. For example, one study examined hunting experience on the classic weapons effect on aggression (Bartholow et al., 2005). Based on GAM’s knowledge structure approach, the authors hypothesized that college-age males who grew up in a family hunting tradition would have more sophisticated and accurate knowledge about hunting weapons and assault weapons than their nonhunting counterparts. When primed with photos of hunting weapons versus assault weapons, these knowledge structure differences may moderate the weapons effect on accessibility of aggressive cognitions and aggressive behavior. All of these predictions were supported. Hunters, compared to nonhunters, reported more detailed and specific information about guns. Furthermore, hunting experience interacted with gun type (hunting versus assault weapons) in predicting affective and cognitive reactions to guns. Hunting guns were more likely than assault guns to prime aggressive thoughts among nonhunters, whereas assault guns were more likely than hunting guns to prime aggressive thoughts among hunters. As can be seen in Figure 21.3, for hunters the photos of assault guns yielded greater aggression than photos of



**Figure 21.3** Aggressive behavior (number of high-energy noise bursts directed at the opponent) as a function of hunter status and weapon prime

From Bartholow, B. D., Anderson, C. A., Carnagey, N. L., & Benjamin, A. J. (2005). Interactive effects of life experience and situational cues on aggression: The weapons priming effect in hunters and nonhunters. *Journal of Experimental Social Psychology, 41*, 48–60.

hunting guns, whereas the opposite pattern occurred for nonhunters. In sum, the life experiences of hunters (typically, happy outings hunting with Dad and other friends and family) influences one's beliefs, affective reactions, and scripts regarding guns, which in turn influences the effect of different types of gun photos.

The point is that there are numerous moderating effects in the aggression and violence literature, and they can occur between various types of risk factors for aggression. Many more remain to be discovered. A comprehensive model of human aggression, one that encompasses everything from basic biological processes to complex social systems, aids greatly in directing future research in the discovery of new moderator effects.

## REDUCING AGGRESSION

Most aggression treatment programs can be divided into one of two broad categories, depending upon whether aggression is viewed as proactive or reactive (see Berkowitz, 1993, pp. 358–370). Recall that proactive aggression is cold-blooded, premeditated, and serves as a means to some other end, whereas reactive-aggression is hot-blooded, impulsive, and is an end in itself. Both types of treatment programs focus on personal (e.g., beliefs and attitudes about the effectiveness of aggression in solving problems) and situational factors (e.g., provocation, frustration) to reduce angry internal states. Once people are calm, they make less hostile cognitive appraisals, and behave in a less impulsive, nonaggressive manner.

People may resort to aggression because it is the easiest way for them to get what they want in the short run. Negotiating, inducing guilt, compromising, ingratiating, and other ways of influencing others all require considerable skills and self-control, whereas aggression does not. People may therefore turn to aggression as a seemingly rational and appealing way of pursuing their goals.

Therapists who view aggression as proactive (instrumental) behavior concentrate on teaching aggressive people that they will satisfy their goals more effectively using nonaggressive means. This approach to reducing aggression uses *behavior modification* learning principles that focus on reinforcing nonaggressive behaviors. One example is the approach used by the Oregon Social Learning Center (e.g., Patterson, Reid, Jones, & Conger, 1975). In this approach, parents play a key role in forming aggressive tendencies in their children by doing things like nagging them, failing to reward desirable behavior,

and inconsistently punishing undesirable behavior. Thus, parents are involved in the treatment plan.

The treatment is based on a contract the therapist makes with the aggressive child. The contract specifies the rewards the child will receive if he or she complies with the contract. For example, the child might earn 1 point for listening to parents, and lose 1 point for swearing at someone. The points can be exchanged for privileges (e.g., playing video games, favorite treats). If the first contract is successful, a second contract is negotiated that includes new behaviors. The program is effective in reducing aggression in about one of three children.

Another effective program is social skills training, in which people learn about the verbal and nonverbal behaviors involved in social interactions (e.g., Pepler, King, Craig, Byrd, & Bream, 1995). For example, they are taught how to make “small talk” in social settings, how to maintain good eye contact during a conversation, and how to “read” the subtle cues contained in social interactions. By learning how to interact better with others, people do not have to resort to aggression to get what they want.

Having prosocial role models, even virtual ones, also helps (e.g., Spivey & Prentice-Dunn, 1990). Just as exposure to violent models in the media can increase aggression, exposure to prosocial models in the media can decrease aggression and increase cooperation (e.g., Saleem & Anderson, 2012; for a meta-analytic review see Mares & Woodard, 2005).

Other approaches to reducing aggression focus on dampening emotional reactivity using relaxation and cognitive-behavioral techniques (for a meta-analytic review see DiGiuseppe & Tafrate, 2003). Most relaxation-based techniques involve deep breathing, visualizing relaxing images (e.g., a peaceful meadow), or tightening and loosening muscle groups in succession. For example, people can practice relaxing after imagining or experiencing a provocative event. In this way, they learn to calm down after they have been provoked.

Cognitive-based treatments focus on how an event is appraised or interpreted. When provocative events occur, people talk to themselves (in their minds), a process called *self-instructional training* (e.g., Novaco, 1975). When preparing for a provocation, people rehearse statements such as: “If I find myself getting upset, I’ll know what to do.” When confronting the provocation, people rehearse statements such as: “Stay calm. Just continue to relax.” To cope with arousal and agitation that arises following provocation, people rehearse statements such as: “My muscles are starting to feel tight. Time to relax and slow things down.” If the conflict is resolved, people rehearse

statements such as: “That wasn’t as hard as I thought.” If the conflict is not resolved, people rehearse statements such as: “These are difficult situations, and they take time to work out.” Research shows that it is especially helpful to combine relaxation and cognitive techniques (e.g., Novaco, 1975). Other reappraisal training programs have proven effective with a general college student population (e.g., Barlett & Anderson, 2011).

## CONCLUSION

Why do people behave aggressively? For nearly a century, psychologists have sought to answer this question by developing sophisticated theories of aggression, examining the development of aggression over time, identifying individual differences and situational factors that increase aggression, considering the roles of emotion, cognition, and arousal in influencing aggression, and designing interventions to reduce aggression. This chapter reviewed classic and contemporary aggression research that has searched for answers as to why people behave aggressively. By understanding the causes of aggression, researchers and laypersons will have a better understanding of how to prevent aggression.

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