

Anderson, C.A. (2002). Aggression. (pp. 68-78). Article in E. Borgatta & R Montgomery (Eds.) *The Encyclopedia of Sociology, Second Edition*, New York: MacMillan.

Please note that this electronic reprint is provided as a professional courtesy. Please do not post or distribute this reprint in any fashion that may violate the copyright of the original publisher or the author.

AGGRESSION

In its most extreme forms, aggression is human tragedy unsurpassed. Hopes that the horrors of World War II and the Holocaust would produce a worldwide revulsion against the taking of another human's life, resulting in the end of genocidal practices and a reduction in homicide rates, have been dashed by the realities of increasing homicide and genocide in the last half of the twentieth century. The litany of genocidal events is both long and depressing, including major massacres in Uganda, Cambodia, Rwanda, Burundi, Zaire, Bosnia, Serbia, Croatia, and Herzegovina, among others. Homicide rates have risen in a number of industrialized countries since World War II, most notably in the United States.

We have seen slight declines in the homicide rate in the United States during the 1990s. But despite six consecutive years of decreases, the 1997 homicide rate was still 133 percent of the 1965 rate, and 166 percent of the 1955 rate. For these and related reasons, interest in understanding the causes of aggression remains high, and there have been major advances in the social psychology of aggression.

WHAT IS AGGRESSION?

Definitions have varied widely over time and across research domains. However, a consensus has emerged among most social psychologists studying human aggression about what constitutes "aggression" in general and what constitutes the major forms or "ideal types" of aggression. (See the following books for current definitions and perspectives on aggression: Baron and Richardson

1994; Berkowitz 1993; Geen 1990; Geen and Donnerstein 1998; Tedeschi and Felson 1994).

Basic Definitions. *Aggression vs. Assertiveness vs. Violence.* Human aggression is behavior performed by one person (the aggressor) with the intent of harming another person (the victim) who is believed by the aggressor to be motivated to avoid that harm. "Harm" includes physical harm (e.g., a punch to the face), psychological harm (e.g., verbal insults), and indirect harm (e.g., destroying the victim's property).

Accidental harm is not "aggressive" because it is not intended. Harm that is an incidental by-product of actions taken to achieve some superordinate goal is also excluded from "aggression" because the harm-doer's primary intent in such cases is to help the person achieve the superordinate goal and because the harm-recipient doesn't actively attempt to avoid the harm-doer's action. For example, pain delivered during a dental procedure is not "aggression" by the dentist against the patient.

In their scientific usages "aggressiveness" is very different from "assertiveness" even though the general public frequently uses these words interchangeably. When people say that someone is an "aggressive" salesperson they typically mean that he or she is assertive—pushy or confident or emphatic or persistent—but they do not truly mean "aggressive" unless, of course, they believe that the salesperson intentionally tries to harm customers. Similarly, coaches exhorting players to "be more aggressive" seldom mean that players should try to harm their opponents; rather, coaches want players to be more assertive—active and confident.

Violence, on the other hand, is a subtype of aggression. The term "violence" is generally used to denote extreme forms of aggression such as murder, rape, and assault. All violence is aggression, but many instances of aggression are not violent. For example, one child pushing another off a tricycle is considered aggressive but not violent. For example, one child pushing another off a tricycle is considered aggressive but not violent.

Affective vs. Instrumental Types of Aggression. "Affective" aggression has the primary motive of harming the target, and is thought to be based on

anger. It is sometimes labeled hostile, impulsive, or reactive aggression, though these labels often carry additional meaning. When aggression is merely a tool to achieve another goal of the aggressor, it is labeled "instrumental" aggression. Most robberies are primarily instrumental, whereas most murders and assaults are affective. Similarly, Jack may hit Jim merely to obtain a desirable toy, a case of instrumental aggression. Jim may get angry and respond by hitting Jack in order to hurt him, a case of affective aggression.

Proactive vs. Reactive Types of Aggression. "Proactive" aggression occurs in the absence of provocation. It is usually instrumental, as when Jack hit Jim to get the toy. "Reactive" aggression is a response to a prior provocation, such when Jim retaliated. There is an asymmetrical relation between proactive and reactive aggression. Children who are high on proactive aggression usually are high on reactive aggression as well, but many children who are high on reactive aggression engage in little proactive aggression.

Thoughtful vs. Thoughtless Aggression. A more recent distinction among types of aggression concerns whether the aggressive act resulted from thoughtful or thoughtless (impulsive) psychological processes. In past work, instrumental aggression has usually been seen as thoughtful, involving the careful weighing of potential costs and benefits. But more recent work reveals that frequent use of aggression to obtain valued goals can become so automatized that it also becomes thoughtless. Affective aggression has usually been seen as thoughtless, but people sometimes consider various possible courses of action and decide that an angry outburst is the best way to achieve those goals. This distinction between thoughtful and thoughtless aggression has important implications for the development of and intervention in aggression.

Distinguishing among types of aggression is difficult because underlying motives and psychological processes must be inferred. Is Jim's angry attack on Jack purely anger-based, solely intended to harm Jack, or is there also some instrumental component? There is a growing realization that these ideal types of aggression rarely exist in pure form in the real world of human interaction. Indeed, a few scholars have argued that all aggression is instrumental, serving goals such as social control, public-image management, private-image

management (i.e., self-esteem), and social justice. Nonetheless, most aggression scholars still find these distinctions helpful for theoretical, rhetorical, and application-oriented reasons.

WHAT CAUSES AGGRESSION?

The causes of aggression can be analyzed at two different levels: the proximal causes (in the immediate situation) and the more distal causes that set the stage for the emergence and operation of proximate causes.

Distal Causes: Biological Factors. Distal causes of aggression are those that make people ready and capable of aggression. Some are structural, built into the human species. Others are developmental, based on the particular environmental history of the individual, and result in individual differences in preparedness to aggress.

Genetics. In the broadest sense aggression is a species characteristic. That is, the human species has physical, cognitive, and emotional systems capable of intentionally inflicting harm on other humans. The genetic basis of aggression is easier to identify in nonhuman species, in which fighting behaviors can be produced by stimulating certain regions of the limbic system. Similar physiological systems exist in humans, but human behavior is much more complexly determined.

In the more usual sense genetic influences refer to individual differences in aggressiveness that are linked to genetic differences within the species. Human twin studies have yielded mixed results in estimates of the genetic contribution to human aggression. Miles and Carey (1997) did a meta-analysis (i.e., statistical review) on twenty-four "genetically informative" studies. Two important conclusions were: (1) up to 50 percent of variation in self- or parent-reported aggression was attributable to genetic effects; and (2) when aggressiveness was measured by careful observation of laboratory behaviors, the genetic effect disappeared and a strong family-environment effect emerged. These contradictory findings highlight the complexity of human aggression as well as the need for additional studies.

Mechanisms. Several biological mechanisms appear plausible as potential causes of individual differences in aggressiveness. Hormones (e.g.,

testosterone), neurochemicals (e.g., serotonin), attention deficit hyperactivity disorder, and general levels of arousal have all been linked to aggression. For example, Eysenck and Gudjonsson (1989) proposed that individuals whose nervous system is relatively insensitive to low levels of environmental stimulation seek out high-risk activities, including criminal ones, to increase their arousal.

But many biological effects on aggression are neither as strong nor as consistent as the general public believes. For example, testosterone is frequently cited as the explanation for male/female differences in violence rates, but the human literature on testosterone effects is far from clear. Testosterone levels in humans seems more closely linked to social dominance, which in turn may well influence aggression under some limited circumstances (Campbell, Muncer, and Odber 1997; Geary 1998).

Other psychological variables with links to aggression also appear to have some genetic basis. Empathy, behavioral inhibition, negative affectivity, extraversion, neuroticism, and psychoticism all have yielded evidence of some genetic heritability, and have obvious links to aggression. General intelligence may also link biological variation to aggressiveness; low intelligence increases the occurrence of frustrating failures and aversive conditions, which might increase the likelihood of a person developing an aggressive personality.

Distal Causes: Environmental and Psychological Factors. Numerous social, environmental, and psychological factors contribute to the development of habitual aggressiveness. Learning stands out as the most important factor of all.

Learning. Bandura's social-learning theory of aggression (1973) has been most influential. One key idea in this and all modern learning approaches is that much of human development is based on learning by observing how other people behave. Patterson, DeBaryshe, and Ramsey (1989) presented a detailed look at the maladaptive social-learning processes found in families of aggressive children. Among the key problems are parental use of poor disciplinary measures and inadequate monitoring of their children's activities. Similarly, Olweus (1995) has identified a number of child-rearing factors that are conducive to creating bullies: caretakers with indifferent attitudes toward the child; permissiveness for aggressive behavior

by the child; and the use of physical punishment and other power-assertive disciplinary techniques.

Cognitive psychology has also been crucial in the present understanding of the aggressive personality, as can be seen in books by Berkowitz (1993) and Geen (1990), and in Huesmann's (1998) information-processing theory of aggressive personality development. In brief, humans begin learning from infancy how to perceive, interpret, judge, and respond to events in the physical and social environment. We learn perceptual schemata that help us decide what to look for and what we "see." We learn rules for how the social world works. We learn behavioral scripts and use them to interpret events and actions of others and to guide our own behavioral responses to those events. These various *knowledge structures* develop over time. They are based on the day-to-day observations of and interactions with other people: real (as in the family) and imagined (as in the mass media). For example, the long-term exposure to media violence can increase later aggressive behavior by influencing a variety of aggression-related knowledge structures. Such long-term media violence effects have been shown to be substantial in size and long lasting in duration (Huesmann and Miller 1994).

As knowledge structures develop, they become more complex, interconnected, and difficult to change. Developing knowledge structures are like slowly hardening clay. Environmental experiences shape the clay. Changes are relatively easy to make at first, when the clay is soft, but later on changes become increasingly difficult. Longitudinal studies suggest that aggression-related knowledge structures begin to harden around age eight or nine, and become more perseverant with increasing age.

People learn specific aggressive behaviors, the likely outcome of such behaviors, and how and when to apply these behaviors. They learn hostile perception, attribution, and expectation biases, callous attitudes, and how to disengage or ignore normal empathic reactions that might serve as aggression inhibitors.

The pervasiveness, interconnectedness, and accessibility of any learned knowledge structure is largely determined by the frequency with which it is encountered, imagined, and used. With great

frequency even complex perception-judgment-behavior knowledge structures can become *automatized*—so overlearned that they are applied automatically with little effort or awareness. Frequent exposure to aggressive models is particularly effective in creating habitually aggressive people, whether those models are in the home, neighborhood, or mass media. Once the use of any particular knowledge structure has become automatized, it becomes very difficult for the person to avoid using it because the perceptions and behavioral impulses it produces seem to be based on “how the world really is.”

Social Processes. Several common social processes contribute to disproportionate exposure to and learning of aggression-related knowledge structures. Low intellect (social or academic) creates excessive failures and frustration in a variety of developmental contexts. Low social intelligence, for example, leads to problems in interpersonal interactions, whereas low academic intelligence creates problems in school settings. Problems in either context typically lead to higher-than-normal levels of aggression, which lead to further frustrating encounters with parents, teachers, and peers. The resulting social ostracism often forces children to spend more time with other social misfits who also have highly aggressive behavior patterns. This “gang” can impede further intellectual development and reward additional antisocial tendencies.

Environments. Many social environments foster the development of an aggressive personality. Such factors include poverty; living in violent neighborhoods; deviant peers; lack of safe, supervised child recreational areas; exposure to media violence; bad parenting; and lack of social support. Growing up in a culture of fear and hate, as in many ethnic-minority communities around the world, may well be the most extreme version of an aggressive-personality-fostering environment, and may well account for the generation after generation of ethnic and religious hatreds and genocidal tendencies that occasionally erupt into genocidal wars (Keltner and Robinson 1996; Staub 1989, 1998). The perceptual knowledge structures modeled and explicitly taught in these contexts guarantee continued mistrust, misunderstanding, and hatred of key outgroups.

Even in its simplest form, poverty is associated with more frustrations, bad role models, and lack

of good role models. Bad parenting includes several particularly common and damaging factors such as lack of parental attention, inconsistent discipline, harsh and abusive discipline, and inattention to nonaggressive efforts at problem solving by the child. Privation, victimization, and violence in a social milieu of long-standing ethnic/religious conflicts provide a powerful learning environment that is mightily resistant to change.

Short-term impoverishment, such as that brought on by a general decline in economic activity (e.g., a recession or depression), has been proposed as a causal factor in aggression directed against ethnic minorities. The dominant model is that the frustration engendered by such economic downturns leads to increased aggression against relatively powerless target groups. However, research casts considerable doubt on this hypothesis. For example, Green, Glaser, and Rich (1998) reanalyzed data on lynchings and data on “gay-bashing,” and showed no evidence of short-term fluctuations in economic conditions and violence directed at minorities.

Child abuse and neglect. Child abuse and neglect itself are self-perpetuating problems. Abused or neglected children are particularly likely to become abusing and neglecting parents and violent criminal offenders. Children learn maladaptive beliefs, attitudes, and values from their abusive or neglectful parents (Azar and Rohrbeck 1986; Peterson, Gable, Doyle, and Ewugman 1997).

Proximate Causes: Individual Differences. The distal causes described in earlier sections set the stage for human aggression of various types. Proximate causes are those that are present in the current situation. One type of proximate cause consists of individual differences between people that have been created by their biological and social pasts. People differ widely in readiness for aggressing. These differences show considerable consistency across time and situations (Huesmann and Moise 1998).

Hostility Biases. Hostility biases have been identified in aggressive adults and children, some as young as six years. The *hostile perception bias* is the tendency of aggression-prone people to perceive social behaviors as more aggressive than do normal people, whereas the *hostile expectation bias* is the tendency of aggression-prone people to expect

and predict others to behave relatively more aggressively (Dill, Anderson, Anderson, and Deuser 1997). The more widely studied *hostile attribution bias* is the tendency of aggression-prone people to attribute hostile intent to others' accidentally harmful behaviors. For example, Dodge (1980) had aggressive and nonaggressive children listen to a story about a boy who hurt another boy by hitting him with a ball. When asked, aggressive children attributed more hostile intent to the boy who threw the ball than did nonaggressive children.

Attitudes and Beliefs. Aggression-prone people hold favorable attitudes toward aggression, believing that aggressive solutions to problems are effective and appropriate. Aggressive thoughts and aggressive solutions come to mind quickly and easily. However, creating nonaggressive alternatives is particularly difficult for the aggressive person.

For example, Malamuth, Linz, Heavey, Barnes, and Acker (1995) found that sexually aggressive males hold relatively positive attitudes toward the use of aggression against women, believe in numerous rape myths, engage in more impersonal sex, and are likely to aggress against women in nonsexual contexts as well. Research (Anderson and Anderson 1999) reveals that sexually aggressive men are specifically aggressive only against women, in both sexual and nonsexual contexts, but are not unusually aggressive against other men.

Narcissism and Self-Esteem. The predominant view of the link between self-esteem and violence has been that low self-esteem contributes to high violence. However, research from several perspectives has demonstrated a very different pattern. Certain individuals with high self-esteem are most prone to anger and are most aggressive when their high self-image is threatened. Specifically, it is high self-esteem people who react most violently to threats to their self-esteem—if their high self-esteem is inflated (undeserved), unstable, or tentative. In other words, narcissists are the dangerous people, not those with low self-esteem or those who are confident in their high self-image (Baumeister, Smart, and Boden 1996; Bushman and Baumeister 1998; Kernis, Grannemann, and Barclay 1989).

Sex. Males and females differ in aggressive tendencies, especially in the most violent behaviors of homicide and aggravated assault. The ratio of male to female murderers in the United States is

almost 10:1. Laboratory studies show the same type of sex effect, but provocation has a greater effect on aggression than does sex. Bettencourt and Miller (1996) used meta-analytic procedures and found that sex differences in aggression practically disappear under high provocation.

Men and women also appear to differ in what provokes them. Bettencourt and Miller showed that males are particularly sensitive to negative intelligence provocations whereas females are particularly sensitive to insults by a peer and to physical attacks. Geary, Rumsey, Bow-Thomas, and Hoard (1995) showed that males are more upset by sexual infidelity of their mates than by emotional infidelity, whereas the opposite pattern occurs for females. Buss and Shackelford (1997) showed similar sex differences in the effects of infidelity on mate-retention tactics, including use of violence.

Biology. Other biological differences that people bring with them to the current situation may also contribute to aggression, but as noted earlier many biological effects on aggression are neither as strong nor as consistent as the general public believes. For example, testosterone is frequently cited as the explanation for male/female differences in violence rates, but the human literature on testosterone effects is mixed.

Proximate Causes: Situational Factors. The second type of proximate causes of aggression consists of the situational factors currently present. Some of these factors are so powerful that even normally nonaggressive individuals can be made to behave aggressively.

Provocation. Most aggressive incidents can be directly linked to some type of perceived provocation. Some are direct and obvious, such as verbal insults and physical assaults. Some are less direct, as when an expected pay raise fails to materialize. Most murders and assaults in normal (i.e., nonwar) contexts are the result of provocations of one kind or another, usually in a series of escalatory provocations, threats, and counterthreats. Federal Bureau of Investigation data reveal that most murders in the United States occur during arguments among family, friends, or acquaintances. The tendency for stranger-based homicides to be relatively rare is even more pronounced in other industrialized cultures than in the United States. Frequently, the provocations involve sexual or emotional infidelity, or perceived insults to one's honor.

Frustration. Frustration is both an event and an emotional reaction. It occurs when something blocks the attainment or threatens the continued possession of a valued goal objective. For example, a supervisor's bad report may prevent a promotion, a spouse's infidelity may threaten the continued existence of a marriage, or a flood may destroy one's home. If the frustrating agent is another person, then the frustrating event is also a provocation.

The original form of the frustration-aggression hypothesis by Dollard, Doob, Miller, Mowrer, and Sears (1939) stated that: (1) all acts of aggression are the result of previous frustration; (2) all frustration leads to aggression. But some frustrations do not yield aggression, and some aggression is not the result of a prior frustration. Indeed, many contemporary scholars believe that if a frustrating event is fully justified, the frustrated person would show no residual inclination to aggress. However, Berkowitz (1989) claimed that even fully justified frustration can produce aggressive tendencies. This prediction was recently confirmed by Dill and Anderson (1995).

In a similar vein, Miller and Marcus-Newhall (1997) have shown that provocations can lead to increased aggressive tendencies against individuals who were not part of the frustrating event at all, a phenomenon typically labeled *displaced aggression*. Miller and Marcus-Newhall also suggest that such displaced aggression is increased if the displacement target provides a minor "triggering" provocation, and if the displacement target is a member of a disliked outgroup.

Incentives. Incentives are the rewards or benefits a person expects for having performed a particular action. Many situations in politics, the business world, and sports encourage aggression by their incentives. People often expect their chances of winning an election, getting a contract, or defeating an opponent to be enhanced by harming their competitor. Research on television violence has shown that seeing a character rewarded (or not punished) for aggressing increases subsequent aggression by the viewer more so than does unrewarded (or punished) television violence, presumably by increasing the perceived incentive value of aggressive behavior.

The prototypical incentive-based example of individual aggression is the contract killer, who

murders purely for money. The Iraqi assault and takeover of Kuwait, as well as NATO's subsequent attack on Iraq are clear examples of incentive-based institutional aggression (though other factors also clearly played a role). Contract murders account for only a small percentage of homicide totals, but they nicely illustrate the concept of relatively anger-free instrumental aggression.

Aversive Stimulation and Stress. Almost any form of aversive stimulation can increase the likelihood of aggression—noise, pain, crowding, cigarette smoke, heat, daily hassles, and interpersonal problems illustrate a few such aversive factors. When the cause of an aversive stimulus is an identifiable person, such as a smoker, these factors are also provocations. As such, they can increase aggression directed at the person identified as the provocateur, as well as against other "displaced" targets.

In cases where there is no identifiable human agent causing the aversive stimulation the effects on aggression are often less noticeable, but much research demonstrates their reality. The most studied of these effects, with relevant data gathered for over one hundred years, is the heat effect. Anderson and Anderson (1998) showed that a wide array of studies across time, culture, and method converge on the conclusion that hot temperatures increase aggressive tendencies. People who live in hotter cities have higher violent crime rates than those in cooler cities. This effect persists even when controlling for poverty, education, and culture. Violent crime rates are higher during hotter years, seasons, months, and days. When people are hot, they think more aggressive thoughts, feel more hostile, and behave more aggressively.

Alcohol and Drugs. Bushman (1993) reviewed studies on alcohol and drug effects on aggression, and found that central nervous system depressants increase aggression. Neither actual alcohol consumption nor the mere belief that one has consumed alcohol were individually sufficient to produce reliable increases in aggression, but when research participants believed they had consumed alcohol and had actually consumed alcohol, aggression increased. The exact mechanisms underlying these drug effects are not yet fully understood. Steele and Josephs (1990) proposed an "alcohol myopia" explanation, in which alcohol

impairs key perceptual processes necessary to normal inhibitions against extreme and risky behavior. Bushman's review (1997) confirmed this view.

Aggression Cues. Objects or events associated with aggression in semantic memory can cue or "prime" aggression-related thoughts, affects, and behavior programs also stored in memory. For instance, seeing a gun can prime aggressive thoughts (Anderson, Benjamin, and Bartholow 1998) and increase aggressive behavior. This phenomenon, labeled the "weapons effect" by Berkowitz and LePage (1967), has been found in field and laboratory studies, in several different countries, with pictures of weapons and with real weapons.

As mentioned earlier, one prevalent source of aggressive cues in modern society is the mass media. Television shows, movies, and video games are filled with violence. Over 1,000 empirical comparisons, compiled by Paik and Comstock (1994) have conclusively demonstrated that even short-term exposure to media violence increases aggression. The immediate impact of viewing violent media is more pronounced for people with strong aggressive tendencies (Bushman 1995). Unfortunately, aggressive people also are the most likely to seek out violent media.

Many people in modern society believe that viewing aggression (e.g., on television) or behaving in a mildly aggressive way within protected environments (e.g., playing football) will reduce later aggressive behavior. This catharsis hypothesis, though, has been thoroughly debunked (Bushman, Baumeister, and Stack in press; Geen and Quanty 1977).

Opportunity. Some situations restrict opportunities to aggress; others provide "good" opportunities. Church service situations have many impediments to aggression—there are witnesses, strong social norms against aggression, and specific nonaggressive behavioral roles for everyone in attendance. Country and Western bars on Saturday nights present better opportunities for aggression, because many aggression facilitators are present: alcohol, aggression cues, aggression-prone individuals, males competing for the attention of females, and relative anonymity.

Removal of Self-Regulatory Inhibitions. One often-neglected facet of human aggression has

garnered increased attention; the aggression inhibitions that normally operate in most people. Several different research groups have independently identified and discussed how these inhibitions are sometimes overridden (Bandura, Barbaranelli, Caprara, and Pastorelli 1996; Keltner and Robinson 1996; Staub 1989, 1998). Most people do not commit extreme acts of violence even if they could do so with little chance of discovery or punishment. Such self-regulation is due, in large part, to the fact that people cannot easily escape the consequences that they apply to themselves. Self-image, self-standards, and sense of self-worth—in other words moral standards—are used in normal self-regulation of behavior.

However, people with apparently normal moral standards sometimes behave reprehensibly toward others, including committing such actions as murder, torture, even genocide. Two particularly important mechanisms that allow people to disengage their normal moral standards involve moral justification and dehumanizing the victim. Common justifications for extreme and mass violence include "it is for the person's own good," or the good of the society, or that personal honor demands the violent action. These justifications can be applied at multiple levels, from a parent's abuse of a child to genocidal war. Dehumanizing the victim operates by making sure that one's moral standards are simply not applicable. War propaganda obviously fits this mechanism, but people also use this mechanism at an individual level. Potential victims are placed in the ultimate outgroup—one that has no human qualities.

The Escalation Cycle. Many proximate causal factors seem too trivial or weak to contribute to serious aggression. How can seeing a weapon, being uncomfortably hot, or watching a violent movie increase murder rates? The answer lies in the escalation cycle. As noted earlier, assaults and homicides do not typically result from one brief encounter or provocation. The parties involved usually know each other and have had a series of unpleasant exchanges. The final encounter may well begin as a relatively minor dispute, but one person escalates the level of aggression. The other person responds in kind and subsequently increases the aggressiveness of the next response. A shouting match can quickly become a shoving match, which can lead to fists, guns, and death. Seemingly trivial factors increase the likelihood of violence by

increasing the accessibility of aggressive thoughts, affect, and behavioral acts at each turn of the escalation cycle.

INTERVENTION: PREVENTION AND TREATMENT

The knowledge structure approach explains the difficulty of rehabilitating adults who repeatedly commit violent crimes, or of changing the genocidal climate of groups that have long histories of hate and violence. At the individual level, a lifetime of developing aggressive behavior scripts and automatized hostile perception, expectation, and attribution biases cannot be unlearned easily. However, this approach also reveals that preventing the development of an aggressive or genocidal personality is a more reasonable goal if appropriate steps are taken prior to full maturation.

Preventing and Treating Aggressive Personality. There are three main loci for preventing a child from developing into an aggressive adult. First, one can reduce exposure to events that teach aggressive behaviors or scripts. This would include direct modeling (e.g., by abusive or violent parents) as well as indirect modeling (e.g., exposure to media violence). Second, one can reduce exposure to events that teach that aggression is rewarding. For example, most media violence is highly rewarding for the perpetrator, especially when it is the protagonist who is committing the violence. Similarly, adult violence against children (e.g., by parents or school officials) appears highly rewarding to the child because the adult "wins" the encounter and there are no obvious costs to the adult for harming the child. Third, one can reduce exposure to events that teach hostile perception, expectation, and attribution biases. Once again, the entertainment media is one source of violence exposure that increases the perception that the world is a dangerous place. A heavy dose of media violence (e.g., television, movies, video games, music) can increase all three hostility biases. Witnessing high levels of violence in one's neighborhood also increases these biases.

At all three loci, reducing exposure to aggression-enhancing factors would seem much easier to do in the context of a normal and relatively non-violent culture than in the context of a genocidal culture. Though the following statements focus on

dealing with the aggressive personality, the general principles apply to dealing with the genocidal personality.

Furthermore, treating people who have already developed a strong and stable aggressive personality is much more difficult than preventing the development of such a personality. People with aggressive personalities must learn new nonhostile knowledge structures ranging from perceptual schemata through attributional ones to behavioral scripts. The knowledge structure approach outlined earlier explains why it is easiest to intervene successfully in younger children whose personalities are still malleable, harder to succeed with violent juvenile offenders and young abusive parents, and hardest of all to succeed with habitually violent adult criminals.

Child Abuse: Treatment and Prevention. Early intervention attempts relied primarily on intensive dynamic psychotherapy with the abuser, but this approach has repeatedly failed. Cognitive behavioral interventions have had much greater success, largely because they deal directly with the knowledge structure issues that are so important in this domain (Wolf 1994). This approach succeeds by teaching abusive caregivers to use nonaggressive child compliance techniques, personal anger control, and developmentally appropriate beliefs about childhood abilities.

Reducing Exposure to Aggressive Social Models. Reducing children's exposure to aggressive social models would reduce the percentage who grow up believing in and using aggressive tactics. One way of doing this is to reduce exposure to violent media, especially television and video games. The research literature on television violence has conclusively demonstrated that early and repeated exposure to violent television causes children to develop into aggressive adults. For example, kids who watch a lot of violent television at age eight are more likely to have criminal records at age thirty, even after statistically controlling for a variety of other relevant social variables. Research has suggested that exposure to violent video games has a similar effect.

Reducing other types of exposure to violent social models would also help. Reducing parental violence towards children, reducing the frequency

and visibility of violence in children's neighborhoods, reducing violence in schools—including violence by school authorities in attempts to control children—would all have a positive impact on the overall level of aggressiveness in society.

Treating Violent Juvenile Offenders. Many treatments have been tried with violent juvenile offenders, including such things as "boot camps," individual therapy, "scared straight" programs, and group therapy; there is little evidence of sustained success for any of these approaches. One problem is that these standard approaches do not address the wide range of factors that contribute to the development and maintenance of violent behavior. However, there is evidence that treatment can have a significant beneficial impact on violent juvenile offenders (e.g., Simon 1998). Tate, Reppucci, and Mulvey (1995) drew attention to one approach with impressive results—the Multisystemic Therapy developed by Henggeler and Borduin (e.g., Henggeler, Schoenwald, Borduin, Rowland, and Cunningham 1998). Multisystemic Therapy is a family-based approach that first identifies the major factors contributing to the delinquent and violent behaviors of the particular individual undergoing treatment. Biological, school, work, peers, family, and neighborhood factors are examined. Intervention is then tailored to fit the individual constellation of contributing factors. Opportunities to observe and commit further violent and criminal offenses are severely restricted, whereas prosocial behavior opportunities (including studying school subjects, developing hobbies) are greatly enhanced, and are rewarded. Both the long-term success rate and the cost/benefit ratio of this approach have greatly exceeded other attempts at treating this population.

Adults. Attempts at treatment or "rehabilitation" of violent adults, usually done in the context of prison programs, have led to a general consensus of failure. However, several studies have yielded some evidence of a positive effect of treatment on the behavior of violent adults (e.g., Simon 1998). Rice (1997) reported that an intensive program for violent offenders cut recidivism rates in half for nonpsychopathic offenders. Unfortunately, the recidivism rate for psychopathic offenders was significantly increased by this particular treatment program.

MAKING MODERN SOCIETIES LESS VIOLENT

Several controversial suggestions for social change emerge from the past forty years of research on human aggression. These suggestions, designed to decrease aggression and violence levels generally rather than to treat already-violent individuals, are controversial for political rather than scientific reasons. Research results clearly support each of them.

1. Reduce exposure to media violence and other aggressive role models, especially for children and adolescents.
2. Replace the use of corporal punishment with more positive child-control techniques.
3. Reduce social rewards for aggressive activities, including those previously thought to be cathartic.
4. Increase social rewards and social support for nonaggressive prosocial activities (e.g., learning in school) while making success at such activities possible (e.g., reducing class sizes).
5. Increase the quality of prenatal and postnatal care, to decrease the proportion of the population suffering from developmental difficulties that interfere with normal learning and socialization processes (Anderson in press).
6. Increase the quality of parenting, by providing instruction, social support, and economic support.

REFERENCES

- Anderson, C. A. (in press) "Aggression and Violence." *The Encyclopedia of Psychology*. Washington, D.C.: American Psychological Association.
- , A. J. Benjamin, and B. D. Bartholow 1998 "Does the Gun Pull the Trigger? Automatic Priming Effects of Weapon Pictures and Weapon Names." *Psychological Science* 9:308–314.
- Anderson, C. A., and K. B. Anderson 1998 "Temperature and Aggression: Paradox, Controversy, and a (Fairly) Clear Picture." In R. Geen and E. Donnerstein, eds., *Human Aggression: Theories, Research and Implications for Social Policy*. New York: Academic Press.

- Anderson, K. B., and C. A. Anderson 1999 *Men who Target Women: Specificity of Target, Generality of Aggressive Behavior*. Unpublished manuscript.
- Azar, S. T., and C. A. Rohrbeck 1986 "Child Abuse and Unrealistic Expectations: Further Validation of the Parent Opinion Questionnaire." *Journal of Consulting and Clinical Psychology* 54:867-868.
- Bandura, A. 1973 *Aggression: A Social Learning Analysis*. Englewood Cliffs, N.J.: Prentice-Hall.
- , C. Barbaranelli, G. V. Caprara, and C. Pastorelli 1996 "Mechanisms of Moral Disengagement in the Exercise of Moral Agency." *Journal of Personality and Social Psychology* 71:364-374.
- Baron, R. A., and D. R. Richardson 1994 *Human Aggression*, 2nd ed. New York: Plenum Press.
- Baumeister, R. F., L. Smart, and J. M. Boden 1996 "Relation of Threatened Egotism to Violence and Aggression: The Dark Side of High Self-Esteem." *Psychological Review* 103:5-33.
- Berkowitz, L. 1989 "Frustration-Aggression Hypothesis: Examination and Reformulation." *Psychological Bulletin* 106:59-73.
- 1993 *Aggression: Its Causes, Consequences, and Control*. New York: McGraw-Hill.
- , and A. LePage 1967 "Weapons as Aggression-Eliciting Stimuli." *Journal of Personality and Social Psychology* 7:202-207.
- Bettencourt, B. A., and N. Miller 1996 "Gender Differences in Aggression as a Function of Provocation: A Meta-Analysis." *Psychological Bulletin* 119:422-447.
- Bushman, B. J. 1993 "Human Aggression While Under the Influence of Alcohol and Other Drugs: An Integrative Research Review." *Current Directions in Psychological Science* 2:148-152.
- 1995 "Moderating Role of Trait Aggressiveness in the Effects of Violent Media on Aggression." *Journal of Personality and Social Psychology* 9:950-960.
- 1997 "Effects of Alcohol on Human Aggression: Validity of Proposed Explanations." In M. Galanter, et al., eds., *Recent Developments in Alcoholism: Alcohol and Violence*, vol. XIII. New York: Plenum Press.
- , and R. F. Baumeister 1998 "Threatened Egotism, Narcissism, Self-Esteem, and Direct and Displaced Aggression: Does Self-Love or Self-Hate Lead to Violence?" *Journal of Personality and Social Psychology* 75:219-229.
- , and A. D. Stack 1999 "Catharsis, Aggression, and Persuasive Influence: Self-Fulfilling or Self-Defeating Prophecies?" *Journal of Personality and Social Psychology* 76:367-376.
- Buss, D. M., and T. K. Shackelford 1997 "From Vigilance to Violence: Mate Retention Tactics in Married Couples." *Journal of Personality and Social Psychology* 72:346-361.
- Campbell, A., S. Muncer, and J. Odber 1997 "Aggression and Testosterone: Testing a Bio-Social Model." *Aggressive Behavior* 23:229-238.
- Dill, K. E., C. A. Anderson, K. B. Anderson, and W. E. Deuser 1997 "Effects of Aggressive Personality on Social Expectations and Social Perceptions." *Journal of Research in Personality* 31:272-292.
- Dodge, K. A. 1980 "Social Cognition and Children's Aggressive Behavior." *Child Development* 51:162-170.
- Dollard, J., L. Doob, N. Miller, O. H. Mowrer, and R. R. Sears 1939 *Frustration and Aggression*. New Haven, Conn.: Yale University Press.
- Eysenck, H. J., and G. Gudjonsson 1989 *The Causes and Cures of Criminality*. New York: Plenum Press.
- Geary, D. C. 1998 *Male, Female: The Evolution of Human Sex Differences*. Washington, D.C.: American Psychological Association.
- , M. Rumsey, C. C. Bow-Thomas, and M. K. Hoard 1995 "Sexual Jealousy as a Facultative Trait: Evidence from the Pattern of Sex Differences in Adults from China and the United States." *Ethology and Sociobiology* 16:355-383.
- Geen, R. G. 1990 *Human Aggression*. Pacific Grove, Calif.: Brooks/Cole.
- , and E. Donnerstein (eds.) 1998 *Human Aggression: Theories, Research and Implications for Social Policy*. New York: Academic Press.
- Geen, R. G., and M. B. Quanty 1977 "The Catharsis of Aggression: An Evaluation of a Hypothesis." In L. Berkowitz, ed., *Advances in Experimental Social Psychology*, vol. 10. New York: Academic Press.
- Green, D. P., J. Glaser, and A. Rich 1998 "From Lynching to Gay Bashing: The Elusive Connection between Economic Conditions and Hate Crime." *Journal of Personality and Social Psychology* 75:82-92.
- Goldstein, A. P. 1994 *The Ecology of Aggression*. New York: Plenum.
- Henggeler, S. W., S. K. Schoenwald, C. M. Borduin, M. D. Rowland, and P. B. Cunningham 1998 *Multisystemic Treatment of Antisocial Behavior in Children and Adolescents*. New York: The Guilford Press.
- Huesmann, L. R. 1998 "The Role of Social Information Processing and Cognitive Schema in the Acquisition and Maintenance of Habitual Aggressive Behavior." In R. Geen and E. Donnerstein, eds., *Human Aggression: Theories, Research and Implications for Social Policy*. New York: Academic Press.

- (ed.) 1994 *Aggressive Behavior: Current Perspectives*. New York: Plenum.
- , and L. S. Miller 1994 "Long-Term Effects of Repeated Exposure to Media Violence in Childhood." In L. R. Huesmann, ed., *Aggressive Behavior: Current Perspectives*. New York: Plenum Press.
- Huesmann, L. R., and J. F. Moise 1998 "The Stability and Continuity of Aggression from Early Childhood to Young Adulthood." In D. J. Flannery and C. F. Huff, eds., *Youth Violence: Prevention, Intervention, and Social Policy*. Washington, D.C.: American Psychiatric Press.
- Keltner, D., and R. J. Robinson 1996. "Extremism, Power, and the Imagined Basis of Social Conflict." *Current Directions in Psychological Science* 5:101-105.
- Kernis, M. H., B. D. Grannemann, and L. C. Barclay 1989 "Stability and Level of Self-Esteem as Predictors of Anger Arousal and Hostility." *Journal of Personality and Social Psychology* 56:1013-1022.
- Malamuth, N. M., D. Linz, C. L. Heavey, G. Barnes, and M. Acker 1995 "Using the Confluence Model of Sexual Aggression to Predict Men's Conflict with Women: A 10-Year Follow-Up Study." *Journal of Personality and Social Psychology* 69:353-369.
- Miles, D. R., and G. Carey 1997 "Genetic and Environmental Architecture of Human Aggression." *Journal of Personality and Social Psychology* 72:207-217.
- Miller, N., and A. Marcus-Newhall 1997 "A Conceptual Analysis of Displaced Aggression." In R. Ben-Ari and Y. Rich, eds., *Enhancing Education in Heterogeneous Schools: Theory and Application*. Ramat-Gan: Bar-Ilan University Press.
- Olweus, D. 1995 "Bullying or Peer Abuse at School: Facts and Intervention." *Current Directions in Psychological Science* 4:196-200.
- Paik, H., and G. Comstock 1994 "The Effects of Television Violence on Antisocial Behavior: A Meta-Analysis." *Communication Research* 21:516-546.
- Patterson, G. R., B. D. DeBaryshe, and E. Ramsey 1989 "A Developmental Perspective on Antisocial Behavior." *American Psychologist* 44:329-335.
- Peterson, L., S. Gable, C. Doyle, and B. Ewigman 1997 "Beyond Parenting Skills: Battling Barriers and Building Bonds to Prevent Child Abuse and Neglect." *Cognitive and Behavioral Practice* 4:53-74.
- Rice, M. E. 1997 "Violent Offender Research and Implications for the Criminal Justice System." *American Psychologist* 52:414-423.
- Rubin, J. Z., D. G. Pruitt, and S. H. Kim 1994 *Social Conflict: Escalation, Stalemate, and Settlement*, 2nd ed. New York: McGraw-Hill.
- Simon, L. M. J. 1998 "Does Criminal Offender Treatment Work?" *Applied & Preventive Psychology* 7:137-159.
- Staub, E. 1989 *The Roots of Evil: The Origins of Genocide and Other Group Violence*. New York: Cambridge University Press.
- 1998 "Breaking the Cycle of Genocidal Violence: Healing and Reconciliation." In J. Harvey, ed., *Perspectives on Loss: A Sourcebook*. Philadelphia: Taylor and Francis.
- Steele, C. M., and R. A. Josephs 1990 "Alcohol Myopia: Its Prized and Dangerous Effects." *American Psychologist* 45:921-933.
- Strasburger, V. C. 1995 *Adolescents and the Media: Medical and Psychological Impact*. Thousand Oaks, Calif.: Sage.
- Straus, M. A., and R. J. Gelles 1990 *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families*. New Brunswick, N.J.: Transaction.
- Tate, D. C., N. D. Reppucci, and E. P. Mulvey 1995 "Violent Juvenile Delinquents: Treatment Effectiveness and Implications for Future Action." *American Psychologist* 50:777-781.
- Tedeschi, J. T., and R. B. Felson 1994 *Violence, Aggression, & Coercive Actions*. Washington, D.C.: American Psychological Association.
- Wolfe, D. A. 1994 "The Role of Intervention and Treatment Services in the Prevention of Child Abuse and Neglect." In G. B. Melton and F. D. Barry, eds., *Protecting Children from Abuse and Neglect: Foundations for a New National Strategy*. New York: Guilford Press.

CRAIG A. ANDERSON