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VIOLENCE AND AGGRESSION. According to the U.S. Federal Bureau of Investigation's 1996 *Uniform Crime Reports*, in 1995 a murder occurred every 24 minutes, a rape every 5 minutes, a robbery every 54 seconds, and an aggravated assault every 29 seconds. The corresponding rates per 100,000 people were 8.2 murders, 37.1 rapes, 221 robberies, and 418 assaults, totaling 684 violent crimes per 100,000 population. Violent crime has dropped somewhat in recent years. The 1995 rate was 6% lower than the 1990 rate. Even so, the 1995 rate was 142% of the 1975 rate, and 638% of the 1955 rate. These statistics underestimate the actual frequencies because of underreporting, especially of rape and domestic violence. Furthermore, these rates do not include the high rates of severe violence against children by their caregivers, which some estimate at 10%. Violent crime rates in other industrialized societies are lower, but are still unacceptable. Solutions require a thorough understanding of aggression and violence in general.

What Are Aggression and Violence?

Definitions have varied widely over time and across research domains. However, a consensus has emerged among psychologists studying human aggression and violence.

Aggression and 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 direct physical harm (e.g., a punch to the jaw), direct psychological harm (e.g., verbal insults), and indirect harm (e.g., destroying the victim's property).

Accidental harm is not "aggressive" because harm is not intended. Harm sought out by the target is also excluded from "aggression" because the harm-doer's intent in such cases is to help the person achieve other superordinate goals. For example, pain delivered during a dental procedure is not "aggressive."

Aggressiveness is not synonymous with "assertiveness," though the general public frequently uses them interchangeably. An "aggressive" salesperson is actually "assertive," unless of course 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 or active.

Violence is a subtype of aggression, generally used to denote extreme forms of aggression such as murder, rape, and assault. All violence is aggression, but many forms of aggression are not violent.

Affective Versus Instrumental. 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 Versus Reactive. 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 as 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.

Distinguishing among types of aggression is difficult

because motives 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? Some argue 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 find the affective-instrumental and the proactive-reactive distinctions helpful even though they recognize that anger-based aggression often serves multiple motives.

Thoughtful Versus Thoughtless. A final distinction concerns whether the aggressive act resulted from thoughtful or thoughtless (impulsive) psychological processes. Instrumental aggression is usually seen as being thoughtful, involving the careful weighing of potential costs and benefits. But frequent use of aggression to obtain valued goals can become so automatized that it becomes thoughtless. Affective aggression is usually seen as being thoughtless, but people sometimes consider various possible courses of action and decide that an angry outburst is the best way to achieve those goals. The thoughtful-thoughtless distinction has important implications for the development of and intervention in aggression.

What Causes Aggression?

We can analyze the causes of aggression and violence at two different levels—the proximate causes (in the immediate situation) and the more distal causes that set the stage for the emergence and operation of proximate causes.

Proximate Causes: Individual Differences. People differ widely in readiness to be aggressive. These differences show considerable cross-situational consistency.

Hostility Biases. These biases have been identified in aggressive adults and children, some as young as 6 years. The *hostile perception bias* is the tendency of aggression-prone people to perceive social behaviors as more aggressive than normal people. The *hostile expectation bias* is the tendency of aggression-prone people to expect and predict aggressive behavior in others. The *hostile attribution bias* is the tendency of aggression-prone people to attribute more hostile intent to others' accidentally harmful behaviors. For example, Kenneth Dodge 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 (*Child Development*, 51, 162-170).

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 solu-

tions come to mind quickly and easily. However, creating nonaggressive alternatives is particularly difficult for the aggressive person.

For example, a longitudinal study by 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.

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. In a 1996 meta-analysis article, Ann Bettencourt and Norman Miller showed that sex differences in aggression practically disappear under high provocation.

Provocations that elicit aggressive responses also differ for males and females. Bettencourt and Miller showed that males are particularly sensitive to negative intelligence provocations whereas females were particularly sensitive to other types of insults. Males have been shown to be more upset by sexual infidelity of their mates than by emotional infidelity, whereas the opposite pattern occurs for females. Similar sex differences also have been demonstrated in mate retention tactics, including violence.

Biology. Other biological differences also contribute to aggression. 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 systems are relatively insensitive to low levels of environmental stimulation seek out high-risk activities, including criminal ones, to increase their arousal.

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 unclear.

Proximate Causes: Situational Factors. Most aggressive incidents can be directly linked to such factors as provocation, frustration incentives, aversive stimulation and stress, alcohol and drugs, and so on.

Provocation. Some provocations are direct and obvious, such as verbal insults and physical attacks. Some are less direct, as when an expected pay raise fails to materialize. Most murders and assaults are the result of provocations of one kind or another, usually in a series of escalatory charges, threats, and counter-

threats. FBI data reveal that most murders occur during arguments among family, friends, or acquaintances. Very often the provocations involve sexual or emotional infidelity or perceived insults to one's honor.

Frustration. When something blocks the attainment or threatens the continued possession of a valued goal objective, frustration occurs. For example, a supervisor's bad report may prevent a promotion, or a flood may destroy one's home. When the frustrating agent is another person, the frustrating event is also a provocation.

The original form of the frustration-aggression hypothesis was introduced by John Dollard and colleagues (*Frustration and Aggression*, New Haven, Conn., 1939). It 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. One key set of studies focused on the mitigating consequences of justification, which frequently takes the form of claiming that a frustrating action was unintentional or uncontrollable. Apologies often take this form of justification, and are used to prevent aggressive responses. Many scholars believed that if a frustrating event was fully justified, the frustrated person would show no residual inclination to aggress.

However, one researcher claimed that even fully justified frustration can produce aggressive tendencies. It does so by automatically priming aggression-related thoughts and negative affect before the justification occurs. This modified frustration-aggression hypothesis has been shown to be correct (*Aggressive Behavior*, 21, 359-369). Although apologies and other justifications for frustrating behavior dramatically reduce aggression, they do not fully eliminate the instigated aggression tendencies.

Incentives. Many situations in politics, the business world, and sports encourage aggression by their incentives. Many expect their chances of winning an election, getting a contract, or defeating an opponent to be enhanced by harming their competitor. TV violence research 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) TV violence.

The prototypical incentive-based example of aggression is the contract killer, who murders purely for the money. Such murders account for only a small percentage of the U.S. total, but they nicely illustrate the concept of anger-free instrumental aggression.

Aversive Stimulation and Stress. Almost any form of aversive stimulation increases the likelihood of aggression—noise, pain, crowding, cigarette smoke, heat, daily hassles, interpersonal problems. Sometimes the cause of an aversive stimulus is an identifiable person,

such as a smoker. In such cases these factors are also provocations. As such, they can increase aggression directed at the person identified as the provocateur.

In other cases there is no identifiable human agent causing the aversive stimulation. In these cases 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 100 years, is the heat effect. Craig and Kathryn Anderson (in R. Geen & E. Donnerstein, Eds., New York, 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 and feel more hostile.

Alcohol and Drugs. In a 1993 article, Brad Bushman (*Current Directions in Psychological Science*, 2, 148–152) showed that central nervous system depressants increase aggression. Interestingly, neither alcohol nor the 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 drug effects are not yet fully understood. One explanation of the alcohol effect is that *alcohol myopia* impairs key perceptual processes necessary to normal inhibitions against extreme and risky behavior.

Aggression Cues. Any object or event associated with aggression in semantic memory can cue or “prime” aggression-related thoughts, affects, and behavior programs also stored in memory. For instance, most people associate guns with human aggression. Therefore, seeing a gun can prime aggressive thoughts and increase aggressive behavior. Leonard Berkowitz and Anthony LePage (1967) first reported this “weapons effect.” Research participants who had been provoked after seeing some weapons behaved more aggressively than similarly provoked people who had not seen weapons. This effect has been found in field and laboratory studies, in several different countries, with pictures of weapons and with real weapons. Recent research has confirmed that the mere sight of a weapon or of a weapon word automatically increases aggressive thoughts.

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, reviewed by Paik and Comstock (1994), have conclusively demonstrated that exposure to media violence increases aggression. There is some

evidence that the immediate impact of viewing violent media is more pronounced for people with strong aggressive tendencies, as shown by Brad Bushman (*Journal of Personality and Social Psychology*, 1995, 69, 950–960). Generally aggressive people also are the most likely to seek out violent media.

Other more idiosyncratic aggression cues can also increase aggression. For instance, if you are repeatedly angered by a kid named Jack during childhood, your adult encounters with other people named Jack will tend to elicit aggressive thoughts. These thoughts can color interactions with and behavior toward these “Jacks” without your being aware that your childhood nemesis still disturbs your world.

Opportunity. Some situations restrict opportunities to aggress, whereas others provide “good” opportunities. For example, a normal church service is a situation with 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 much better opportunities for aggression; some are noted for their fights. Many factors previously discussed as aggression facilitators are present: alcohol, aggression cues, aggression-prone individuals, males competing for the attention of females. Furthermore, there may be considerable anonymity both because of the relatively large number of strangers as well as the dim lighting. Arnold Goldstein (1994) explores many issues of aggression opportunity as they relate to both physical and social ecology.

Removal of Self-Regulatory Inhibitions. One often-neglected facet of human aggression concerns aggression inhibitions that normally operate in most people. In their article on moral agency, Bandura, Barbaranelli, Caprara, and Pastorelli discussed how these inhibitions are sometimes overridden (*Journal of Personality and Social Psychology*, 1996, 71, 364–374).

People generally regulate their own behavior to a great extent. Most people could “get away with” considerable aggression without suffering negative consequences from society, simply because it would be undiscovered. However, people cannot so 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.

But sometimes people with apparently normal moral standards behave reprehensibly toward others, including such actions as murder, torture, even genocide. How can self-regulatory mechanisms fail so miserably? Bandura and colleagues proposed several “mechanisms of moral disengagement” to account for these failures. These mechanisms short-circuit normal moral self-

regulatory processes by making them seem irrelevant. The two main mechanisms involve moral justification and dehumanizing the victim.

Individuals (or their social leaders) sometimes create moral justifications for violence. Common justifications include "it is for the person's own good," or the good of the society, or that personal honor demands the violent action. Such justifications can be applied at multiple levels, from a parent's abuse of a child to genocidal war.

By dehumanizing the victim, one's moral standards no longer apply. War propaganda obviously fits this mechanism. But people can also use this mechanism at an individual level. People create the ultimate out-group—one that has no human qualities—and psychologically place the intended victims in that group.

The Escalation Cycle. Many proximate causal factors seem too trivial or weak to contribute to violence. How can seeing a weapon or being uncomfortably hot increase murder rates? The answer lies in the process that leads to violence—the escalation cycle. Deadly assaults do not typically result from one brief encounter or provocation. More typically, the people involved know each other and have had a series of unpleasant exchanges. The final encounter that leads to violence may well begin as a relatively minor one, but one person begins escalating the level of aggression. The other person, in turn, becomes even more angry because he or she perceives the other person's behavior as unjust, and subsequently increases the aggressiveness of the next response. Thus, a shouting match can quickly become a shoving match, which can lead to fists, guns, and death. Seemingly trivial factors can increase the likelihood of violence by increasing the accessibility of aggressive thoughts and hostile affect at each turn of the escalation cycle. In the early stages, an insult that normally would be a minor annoyance can instead be perceived as moderately provocative. This can produce a more aggressive response than normal, which then is interpreted by the other person as unjust, leading to another overreaction. In this way, any of the identified causal factors can increase the likelihood of truly violent behavior.

Distal Causes: Biological Factors. Distal causes of aggression and violence are those that make the human organism ready and capable of aggression. Some are structural, meaning that they are built into the human species. Others are developmental, and result in individual differences in preparedness to aggress.

Genetics. In the broadest sense aggression is a species characteristic. That is, the species has physical and emotional systems capable of intentionally inflicting harm on other humans. The specific 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.

In the more usual sense, genetic influences refer to individual differences in aggressiveness that are linked to genetic differences. Human twin studies have yielded mixed results in estimates of the genetic contribution to human aggression. Donna Miles and Gregory Carey reported the results of a meta-analysis on 24 "genetically informative" studies (*Journal of Personality and Social Psychology*, 1997, 72, 207–217). Two important conclusions were: (1) Up to 50% of variation in self- or parent-reported aggression was attributable to genetic effects; (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 importance of additional studies.

Mechanisms. Several biological mechanisms appear plausible. The most biological of these mirror many of the proximate biological factors discussed earlier: hormones, neurochemical transmitters, and general level of arousal. Some 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 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 aggressive personality development.

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

Learning. Albert Bandura's *social learning theory* of aggression (1973) has been most influential. More recently, Patterson, Le Baryshe, and Ramsey presented a detailed look at the maladaptive social learning processes found in families of aggressive children. Among the problems are parental use of poor disciplinary measures and inadequate monitoring of their children's activities (*American Psychologist*, 1989, 44, 329–335).

Cognitive psychology has also been crucial in the present understanding of the aggressive personality, as can be seen in books by Leonard Berkowitz (1993) and Russell Geen (1990), and in Rowell Huesmann's information processing theory of aggressive personality development (in Geen & Donnerstein, Eds., New York, 1998).

Learning processes determine how people perceive, interpret, judge, and respond to events in their lives. People learn perceptual schemata that help them decide what to look for and what is "seen." We learn rules for how the social world works. We learn behavioral scripts to guide our interpretations of events we observe and our behavioral responses to those events. These various knowledge structures develop over time, beginning in

early childhood. 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).

As knowledge structures develop, they become more complex, interconnected, and difficult to change. Child development is like slowly hardening clay. Changes in shape are relatively easy to make at first, but later changes are almost impossible. Longitudinal studies suggest that aggression-related knowledge structures begin to solidify around ages 8 or 9, and become more perseverant with increasing age. Children learn specific aggressive behaviors, the likely outcome of such behaviors, how and when to apply these behaviors. They learn hostile perception, attribution, and expectation biases. They learn callous attitudes and how to disengage normal empathic reactions.

The pervasiveness and thoroughness 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.

Social Processes. Several 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 contexts. This leads to higher than normal levels of aggression, which in turn leads to further frustrating encounters with parents, teachers, and peers. Social ostracism resulting from excessive aggression forces children to spend more time with other social misfits who also have highly aggressive behavior patterns. This "gang" impedes further intellectual development and rewards antisocial tendencies. These processes can occur regardless of the cause of the initial aggression problem.

Environments. Many social environments foster development of aggressive personality. Such factors include poverty; violent neighborhoods; deviant peers; lack of safe, supervised child recreational areas; exposure to media violence; bad parenting; and lack of social support.

Poverty is associated with more frustrations, bad role models, and lack of good role models. Bad parenting includes several particularly common and damaging factors. These include lack of parental attention, inconsistent discipline, harsh and abusive discipline, and inattention to nonaggressive efforts at problem solving by the child.

Child Abuse. A self-perpetuating problem, child abuse is likely to lead abused children to becoming abusing parents and violent offenders. Abused children

learn maladaptive beliefs, attitudes, and values from their abusing parents. Azar and Rohrbeck (*Journal of Consulting and Clinical Psychology*, 1986, 54, 867-868) reported that abusive parents hold unrealistic beliefs about children. For instance, abusing mothers were more likely to agree with the statement "A 5-year-old can be expected to help by feeding, dressing, and changing diapers for an infant" than nonabusive mothers.

Intervention: Prevention and Treatment

The knowledge structure approach explains the difficulty of rehabilitating adults who repeatedly commit violent crimes. A lifetime of developing aggressive behavior scripts and automatized hostile perception, expectation, and attribution biases cannot be unlearned easily. However, this approach says that preventing the development of aggressive personality is a 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. Third, one can reduce exposure to events that teach hostile perception, expectation, and attribution biases.

Treating people who have already developed a strong and stable aggressive personality is much more difficult. They must learn new nonhostile knowledge structures ranging from perceptual schemata through attributional ones to behavioral scripts. The knowledge structure approach 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. Deborah Daro (*Confronting Child Abuse Research in Effective Program Design*, New York, 1988) showed that this approach is ineffective. More recently, a chapter by David Wolfe (in Melton & Barry, *Protecting Children from Abuse and Neglect*, New York, 1994) described a number of successful cognitive-behavioral interventions. This learning approach succeeds by teaching abusive caregivers nonaggressive child compliance techniques, personal anger control, and developmentally appropriate beliefs about childhood abilities. Peterson, Gable, Doyle, and Ewugman describe their Mom-Kid Trial project (*Cognitive and*

Behavioral Practice, 1997, 4, 53-74) as an attempt to make these behavioral techniques easier to teach and longer lasting. By reducing caregiver aggression and substituting nonaggressive techniques, these interventions prevent the development of aggressive personality in children, while simultaneously treating the aggressiveness of the caregiver.

Reducing Exposure to Aggressive Social Models.

At a broader level, reducing children's exposure to aggressive social models would reduce the percentage who grow up believing in and using aggressive tactics. Eron and Huesmann's work on the long-term effects of exposure to violent TV is especially important (*American Psychologist*, 1972, 27, 253-263), as is Huesmann and Miller's chapter on television effects (in *Aggressive Behavior: Current Perspectives*, Huesmann, Ed., New York, 1994). They conclusively demonstrated that early and repeated exposure to violent TV causes children to become more aggressive as adults.

Reducing other types of exposure to violent social models would also help, such as in the Mom-Kid project described earlier or by reducing the frequency and visibility of violence in children's neighborhoods.

Treating Violent Juvenile Offenders. Many approaches have been tried with violent juvenile offenders, including such things as "boot camps," individual therapy, and group therapy; there is little evidence of sustained success for these approaches. One problem with these and many standard approaches is that they do not address the wide range of factors that contribute to the development and maintenance of violent behavior. Tate, Reppucci, and Mulvey (*American Psychologist*, 1995, 50, 777-781) pointed out these problems and drew attention to one approach with impressive results—*multisystemic therapy* developed by Henggeler and Borduin. Borduin describes this approach (*Journal of the American Academy of Child and Adolescent Psychiatry*, 1999, 38, 242-249). Briefly, multisystemic therapy is a family-based approach that first identifies the major factors contributing to the delinquent and violent behaviors. Biological, school, work, peers, and neighborhood factors are examined as well as the family itself. The 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) are greatly enhanced. The long-term success rate and cost-benefit ratio have exceeded other attempts at treating this population.

Adults. Treatment of violent adults is usually done in the context of prison programs, and is usually thought of as "rehabilitation." General consensus among social scientists and prison policy makers is that habitual violent offenders cannot be rehabilitated. However, Marnie Rice (*American Psychologist*, 1997, 52,

414-423) reported the effects of an intensive program for violent offenders (up to 80 hours a week for at least 2 years). Recidivism rates were cut in half for nonpsychopathic offenders. However, the recidivism rate for psychopathic offenders was significantly increased by the treatment program. So there is some hope for a portion of this difficult population, but careful evaluation research is needed to be sure that the right program is used with the right kind of offender.

Making Society Less Aggressive

A number of controversial suggestions for social change emerge from the past 40 years of research on human aggression. Rather than concentrating on treating already violent people, or on intervening with at-risk populations, this approach focuses on society in general. The controversies that arise from these suggestions are political rather than scientific; data and theory clearly support 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., by reducing class sizes). (5) Increase the quality of pre- and postnatal care, to decrease the proportion of the population suffering from developmental difficulties that interfere with normal learning and socialization processes. (6) Fully fund the Head Start program, which attacks several of the nutrition and early learning difficulties. [See Head Start.] (7) Increase the quality of parenting, by providing instruction, social support, and economic support.

[See also Child Abuse and Neglect; Domestic Violence; Family Violence; Impulsivity; Media Effects; Rape; Terrorism; and Violence Risk Assessment.]

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VIOLENCE RISK ASSESSMENT. Over the past 40 years, the concept of dangerousness—the attribution that one individual is likely to physically harm another—has assumed center stage in mental health law. Since the 1960s, virtually every American state has transformed its standard for involuntary inpatient mental hospitalization from “need for treatment” to “dangerous to others” (or dangerous to self). Since the 1970s, most states have adopted the California Supreme Court's holding in *Tarasoff v. Regents* [551 P. 2d 334 (1976)] that mental health professionals could be found liable in tort for the foreseeable violent acts of their patients. Since the 1980s, most states have enacted statutes allowing the involuntary outpatient commitment of persons diagnosed as disordered and predicted to be violent. In the 1990s, the Americans with Disabilities Act was passed to protect the employment rights of persons with mental as well as physical disabilities, unless the persons with mental disabilities were predicted to be a “direct threat” of physical harm to others. In addition, in the 1990s, the United States Supreme Court, in *Kansas v. Hendricks* [117 S.Ct. 2072 (1997)], held that prisoners, on the completion of their sentences, could be transferred to civil mental hospitals if they could be diagnosed with a personality disorder (rather than with a major mental disorder) and were

perceived to be “likely to engage in predatory acts of sexual violence” if released to the community.

Research has only recently managed to keep pace with these developments in law. A review of studies through the 1970s on the accuracy of clinical judgments of the likelihood of violent behavior toward others concluded somberly that “psychiatrists and psychologists are accurate in no more than one out of three predictions of violent behavior” (Monahan, 1981, p. 47). Very little work on violence prediction was published in the 1980s, but in the 1990s, researchers showed greatly renewed interest in this topic. For example, in the most sophisticated study of the clinical prediction of violence, Lidz, Mulvey, and Gardner (1993) took as their subjects male and female patients being examined in the acute psychiatric emergency room of a large civil hospital. Patients who elicited professional concern regarding future violence were found to be significantly more likely to be violent after discharge (53%) than were patients who had not elicited such concern (36%).

The field, now referred to as *violence risk assessment*, has seen a dramatic shift away from studies attempting to validate the accuracy of unstructured clinical predictions of violence and toward studies attempting to isolate specific risk factors that are actuarially (meaning statistically) associated with violence. For example, Steadman et al. (1998) found diagnosis and the presence of a co-occurring substance abuse disorder to be important risk factors for violence. The 1-year prevalence rates of violence to others by persons discharged from acute mental health facilities were: 17.9% for patients with an Axis I mental disorder (i.e., schizophrenia, major depression, or bipolar disorder) without a substance abuse diagnosis; 31.1% for patients with an Axis I mental disorder and a substance abuse diagnosis; and 43.0% for patients with some other form of mental disorder (primarily Axis II diagnoses of personality or adjustment disorder) and a substance abuse diagnosis.

Three actuarial tools combining a number of different risk factors are now being studied. A well-established instrument, which has been used to assess violence in many studies, is the Hare Psychopathy Checklist-Revised (Hare PCL-R). Hare (1998) argued that “psychopathy is the single most important clinical construct in the criminal justice system, with particularly strong implications for the assessment of risk for recidivism and violence” (p. 99). Another instrument that a comprehensive program of research is continuing to validate is the Violence Risk Appraisal Guide (Webster, Harris, Rice, Cormier, & Quinsey, 1994), an actuarial device that incorporates the Hare PCL-R as one of its predictor variables. Finally, the newest actuarial instrument to assess risk of violence, the HCR-20 (Webster, Douglas, Eaves, & Hart, 1995), consists of 20 ratings addressing historical, clinical, or risk manage-