

Anger and Aggression

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Anger and aggression in children and adolescents are increasingly important topics to today's educators and school psychologists. School professionals are confronted not only with the direct effects of anger and aggression, such as threats of violence and fighting among students, but also with the indirect effects that appear in the form of learning difficulties and social adjustment problems. This chapter aims to take a comprehensive look at the problems associated with anger and aggression in today's youth and at some of the current methods and interventions designed to address those problems.

BACKGROUND AND DEVELOPMENT

Anger is defined as a person's response to a threat or the perception of a threat against an individual or group (Lazarus, 1991). The types of threats that tend to trigger an anger response are broad in scope and include both physical threats and psychological threats, or threats to a person's pride or dignity. Anger can also evolve from empathic concern or perceptions of injustice and is related to cognitive factors such as hostility (Spielberger et al., 1985) and cynicism (Martin, Watson, & Wan, 2000). Anger can be adaptive by energizing an individual and heightening cognitive awareness to take action against a threat or perceived threat (Goleman, 1995). Anger is an emotion that is often difficult to control because of the intense physiological reactions involved in the fight or flight response that triggers anger. The fight response is a response triggered naturally by the body to

protect itself against the instigating situation (Lazarus, 1991). Intense, uncontrolled feelings of anger are often associated with externalizing behavior problems, particularly aggression.

Aggression is generally defined as a behavioral act that results in harming or hurting others. However, there are numerous types of aggression, depending on the intentions of the aggressor and the situation that stimulated the aggressive response. Because aggressive behavior, and thus the treatment of aggression, varies greatly according to the intentions and conditions surrounding the aggression, aggression is typically categorized according to type. Aggression is commonly viewed as being either proactive or reactive; overt or covert; or physical, verbal, or relational (e.g., Werner & Crick, 2004). Because proactive and reactive types of aggression have been the focus of recent research and offer both an explanation and description of aggression, they receive primary emphasis here.

Children engaging in *proactive aggression* typically use aggression to meet a goal. For example, if the child wants to have an object that belongs to another child, the proactively aggressive child will simply use aggression to take the object from the other child. Proactively aggressive children also use aggression to obtain social goals (Dodge, 1991). When the aggressive behavior yields the desired reward, the child is more likely to engage in proactive aggression the next time he or she intends to meet a goal. Conversely, *reactively aggressive* children do not seek to meet goals through their aggressive behavior. Instead, those children react negatively to perceived or actual threats and are easily irritated and provoked.

There is increasing evidence that reactive and proactive types of aggression exist independently and relate differently to different expressions of anger. Reactive aggression, which is characterized by hot-blooded anger and is more emotionally driven, is likely to occur with visible displays of anger, whereas proactive aggression, which is more calculated and cold-blooded, does not appear to relate to the expression of anger in the same manner (Hubbard et al., 2002).

Reactive and proactive aggression appear to differ in social outcomes. In terms of peer relations, reactive aggression is associated with peer rejection and peer victimization, whereas proactive aggression is not (Dodge, Lochman, Harnish, Bates, & Pettit, 1997). In contrast, proactive aggression is related to leadership skills and a sense of humor (Dodge & Coie, 1987). The social-cognitive correlates of reactive and proactive aggression also appear to differ. Children who demonstrate reactive aggression tend to incorrectly believe that others have acted hostilely toward them, but proactively aggressive children do not display this bias (Hubbard, Dodge, Cillessen, Coie, & Schwartz, 2001). In addition, proactive aggression, but not reactive aggression, is related to expectations of positive outcomes for aggressive acts (Smithmyer, Hubbard, & Simons, 2000). Children who engage in proactively aggressive acts tend to expect that their goals (e.g., dominance or revenge) will be reached through their aggression.

Developmental Aspects

Anger is a developmentally appropriate and normal reaction to threatening stimuli. Anger motivates the individual for action and protects and preserves the individual and the individual's needs. The anger response and its frequency, the types of aggression exhibited, and the situations that elicit an anger or aggressive response change as children progress through developmental stages from preschool through adolescence and into adulthood.

During infancy, expressions of anger are difficult to differentiate; however, as children age, their facial expressions and vocalizations differentiate more clearly such emotions as fear, sadness, and anger. As children age, they are more likely and capable of directing their negative feelings toward the source of the emotion (Stenberg & Campos, 1990). However, this tends to be counterbalanced as parents and other socializing agents respond more negatively to expressions of anger. Social information-processing skills also improve with age. For example, older children are more likely to accurately consider

the context of the incident and are more capable of correctly identifying the underlying intentions of another person's behavior (Crick & Dodge, 1994).

The types of incidents that elicit aggression in children also appear to change developmentally. Younger children are more likely to act aggressively toward someone or something that blocks their means to some goal. However, older children are more likely to use aggression to react to threats to their self-esteem. As children age, their reactions to insults, putdowns, and other threats to their self-concept become more important triggers of aggressive behavior.

Because boys are typically reported as being more aggressive than girls, a significant amount of research on aggression focuses specifically on males. However, females certainly experience anger and commit acts of aggression. Research has begun to emerge that specifically examines female aggression, particularly relational aggression. *Relational aggression* harms others not through the use of physical violence, but instead through acts that damage peer relationships or threaten to do so. Although relational aggression is the predominant type of aggression among females, it should be noted that the rate of physical aggression among girls has been increasing at a higher rate than among boys (U.S. Department of Justice, 2000).

PROBLEMS AND IMPLICATIONS

Angry and aggressive behaviors are expected among young children, and the occurrence of such behaviors provides important opportunities for socialization and the development of self-control. Temper tantrums, for example, are common in preschool-age children, occurring two to three times per week in typically developing 18-month-old children (Ounsted & Simons, 1978). However, severe and frequent tantrums that persist into the preschool and school-age years are cause for concern, demonstrating the importance of developmental context in labeling problem behaviors. In addition to developmental appropriateness, practitioners should also consider social context when attempting to understand or evaluate anger and aggressive behavior. That is, displays of anger or aggression may be common and accepted in certain situations but not in others. For example, aggressive acts during roughhousing among friends are likely to be well tolerated, whereas similar behaviors may provoke a physical fight outside of a positive social relationship.

Although some problems with anger and aggression are expected during childhood, the distinction between typical and atypical behaviors is a matter of degree. Increases in the severity and frequency of aggressive behavior lead to disruptions in the child's functioning and, in extreme cases, may cause harm to others. Aggression that is serious enough to meet the criteria for Conduct Disorder is estimated to occur in 6% to 16% of males under age 18, and in 2% to 9% of females in that age range (American Psychiatric Association, 1994). A diagnosis of Conduct Disorder is often one part of a developmental trajectory that starts with aggression during early childhood and continues into adolescence and adulthood in the form of antisocial behavior (Schaeffer, Petras, Ialongo, Poduska, & Kellam, 2003). Early aggression has been related to a host of social problems in adolescence and adulthood, including substance abuse, unconventionality, and low achievement (Brook & Newcomb, 1995).

Children who demonstrate problems with anger and aggression are at increased risk for a number of negative outcomes. Aggression is related to mental health problems in children, including externalizing disorders such as Oppositional Defiant Disorder and Conduct Disorder, as well as internalizing problems with depression and anxiety (American Psychiatric Association, 1994). Aggressive behavior compromises children's social relationships, causing children to be rejected by their peers at a high rate (e.g., Dodge, 1983). About half of all rejected children are identified as aggressive (Cillessen, Van IJzendoorn, Van Lieshout, & Hartup, 1992). Problems with anger and aggression are also likely to disrupt children's educational experiences. Aggressive children demonstrate higher levels of academic problems, are more likely to be retained, and are also more likely to prematurely drop out of school (Risi, Gerhardstein, & Kistner, 2003).

FACTORS THAT CONTRIBUTE TO PROBLEMS WITH ANGER AND AGGRESSION

Problems with anger and aggression are influenced by a multitude of factors and can be conceptualized within a contextual social-cognitive model (Lochman & Wells, 2002a). Thus, the next sections examine the roles of emotional, physiological, social-cognitive, and contextual factors in the development and maintenance of anger and aggression.

Emotional Factors

Individual differences in temperament and emotional arousability play a role in the expression of angry and aggressive behaviors, according to studies (Russell, Hart, Robinson, & Olsen, 2003). A more specific link between angry emotional arousal and aggression has also been documented (Arsenio, Cooperman, & Lover, 2000). However, other research has not substantiated the relationship between anger and aggression. For example, Hubbard (2001) found no differences in the expression of anger between aggressive and nonaggressive children. She suggested that the lack of a significant relationship may have resulted from the study's focus on the proactive rather than the reactive type of aggression.

An understanding of the physiological processes involved can elucidate the relationship between angry arousal and aggression and helps to distinguish proactive and reactive aggression. Perception of threat or endangerment activates two physiological processes, which lead to different types of anger. In the first, the thalamus signals the amygdala, which triggers an increase in cardiovascular activity and an energy rush. This can result in an immediate rage response. The amygdala's effects on the adrenocortical branch of the nervous system also lead to longer lasting effects in the form of a general background state of action readiness that can last for hours or days. In this state of arousal, intense anger outbursts may be brought on by seemingly minor irritations and frustrations. Therefore, once initiated, the anger process tends to be maintained and exacerbated and can be difficult to break. This process is consistent with the reactive form of aggression, which is characterized by impulsivity and lashing out.

In the second pathway, the thalamus signals the neocortex, which processes the threatening information and attributes causes and motivations to the event, then develops possible responses to it. In this second case, the anger response is likely to be deliberate and controlled, as in proactive aggression.

Social-Cognitive Factors

Anger and aggression often are conceptualized within a social-cognitive framework (Crick & Dodge, 1994; Dodge, Laird, Lochman, Zelli, & Conduct Problems Prevention Research Group, 2002). This model of social information processing entails six steps: (a) encoding social cues, (b) interpreting the cues, (c) identifying social goals, (d) generating possible solutions to the problem

event, (e) evaluating the solutions, and (f) enacting the behavior of the chosen response. As shown later, understanding how aggressive children's social-cognitive processing differs from that of nonaggressive children has led to the development of interventions and programs that seek to decrease aggressive behavior by correcting deficits in social-cognitive processes.

As a group, aggressive children have been shown to have deficits at each of the six steps, although individual aggressive children are likely to have deficits at only certain steps (Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). In the first step of processing, *encoding*, aggressive children recall fewer relevant cues about a situation, use fewer cues in interpreting an event, show a preference for hostile rather than neutral cues when attending to and recalling an event, and demonstrate a pronounced recency effect for cues in a sequence (Crick & Dodge, 1994).

In the second step, *interpreting cues*, aggressive children tend to excessively infer that others' actions are malevolent, a cognitive distortion known as the hostile attribution bias. The hostile attribution bias has been shown in aggressive children across a number of studies involving both boys and girls, and in both live and hypothetical situations. Many aggressive children also have distortions in their interpretations of their own behaviors. While they tend to overinterpret hostility in others' actions, they tend to underestimate their own aggressive behavior (Lochman & Dodge, 1998). The cognitive errors made in this step of processing may cause aggressive children to react strongly in situations that are generally perceived as neutral or only mildly irritating, and to feel justified in assigning blame to another person for their own aggressive responses.

In the third step of processing, *identifying social goals*, aggressive children tend to assign higher value to goals of retaliation and dominance and to value social affiliation goals less. For example, compared with prosocial and withdrawn children, aggressive children tend to give higher ratings to goals of revenge, self-protection, and appearance of strength, while they give lower ratings to prosocial affiliation goals and constructive problem solving (Erdley & Asher, 1996).

In the fourth step of processing, *generating possible solutions*, aggressive children display deficits in the quality of solutions they generate for problem situations. For example, they are less likely to offer verbal assertion or compromise solutions and are more likely to offer direct action solutions, help-seeking or adult-intervention solutions, and more physically aggressive responses (see

Larson & Lochman, 2002). The fifth step of processing, *evaluating solutions*, involves identifying the potential consequences of the possible solutions to a problem and evaluating each solution in terms of the desired outcome. For aggressive children, this step is influenced by their perceptions and beliefs about aggressive behavior in that they tend to view aggression as less negative (Deluty, 1983) and more positive (Crick & Werner, 1998) than do nonaggressive children.

The final processing step, *enacting the behavior of the chosen response*, appears to be a problem for aggressive children who have been found to have difficulties in carrying out positive and prosocial behaviors (Dodge, Pettit, McClaskey, & Brown, 1986). For example, aggressive children may know that verbal assertion can be a useful strategy in resolving conflicts with peers, but they may fail to state their wants in a confident manner and may neglect important nuances such as tone and body language, causing peers to reject their attempts at verbal assertion.

It is important to note that social information processing at each of these steps interacts with emotional and physiological factors in at least three ways. First, children's perceptions that another person is behaving with hostile intentions toward them can contribute to increased arousal and anger. Second, angry mood states that are due to prior conflicts can lead a child to misperceive causes of problems in subsequent interactions with other individuals. As children become more physiologically aroused in response to provocations, they have accompanying increases in their hostile attributions of others' intentions (Williams, Lochman, Phillips, & Barry, 2003). Third, schemas, or cognitive-emotional beliefs, are also responsible for the experience of anger and influence how information is processed. Once children develop a schema—learned expectations about a particular situation—that their peers are hostile, then subsequent interactions with peers will trigger that schema and taint the current information processing. As the schema is invoked, those children anticipate being treated unfairly; angry feelings and physiological arousal can be triggered and they may respond with aggressive behavior (Lochman, Dunn, & Wagner, 1997).

Contextual Factors

Just as social, cognitive, emotional, and physiological factors interact in an ongoing and reciprocal fashion, so too do each of these factors interact with contextual factors. External influences on anger and aggression in children

include family, peers, and neighborhood factors. Within the family, parenting practices, child abuse, and exposure to domestic violence have all been related to aggression in children. Patterson's (1982) family coercion model outlines how parent-child interactions can unwittingly reinforce and maintain problem behaviors, including aggression, in children. In the model, parental requests are met with resistance from the child, which leads to an escalating pattern of parental demands and child non-compliance. The cycle eventually ends with the parent becoming frustrated and backing down from his or her request, which reinforces the child's negative behavior and sets the stage for similar reactions from the child in response to future parental instructions. From such interactions, the child may learn that coercive behavior is an effective means to achieve their own goals.

Children who are subjected to abusive behaviors, either through direct victimization or as a witness to domestic violence, are also at increased risk for angry, aggressive behaviors. For example, in a recent study of children who had witnessed physical violence in their homes or had been physically abused, Johnson and colleagues (2002) found that child victimization was a significant predictor of child aggression and that witnessing violence significantly predicted aggression and anger in children.

Peer relationships are another important influence (see chapter 25, "Peer Relationships"). Research examining aggressive children's peer relationships has consistently found that aggressive children tend to associate with other aggressive children (Poulin & Boivin, 2000). That tendency increases the probability that their aggressive behaviors will be maintained or will escalate as a result of modeling effects and reinforcement of deviant behaviors (e.g., Dishion, Andrews, & Crosby, 1995).

The school environment also has been shown to affect children's aggression (see chapters 3 and 7, "Developing Self-Discipline" and "School Disciplinary Systems"). Barth, Dunlap, Dane, Lochman, and Wells (2004) found that the aggressiveness of children's classmates directly affected children's own rates of aggressive behaviors. Teachers' management of the classroom has also been related to the prevalence of students' aggression toward classmates (Roland & Galloway, 2002).

Exposure to neighborhood violence also has been shown to increase children's aggressive behaviors. For example, Guerra, Huesmann, & Spindler (2003), in a study of a large sample of children living in urban neighborhoods, indicated that exposure to violence resulted in an increase in aggressive behavior and in social cognitions supporting aggression.

Exposure to various types of violent media, including movies, television, video games, and music, is associated with increased aggression in children and youth (see Anderson et al., 2003, for a review). Studies have shown immediate effects as well as effects over time, with exposure to violent media in childhood predicting aggressive behavior in young adults. Exposure to violent media affects aggression in a number of ways, including physical aggression, verbal aggression, aggressive emotions, and aggressive cognitions.

ALTERNATIVE ACTIONS FOR PREVENTION

Researchers and government agencies have identified several universal programs that specifically address the prevention of aggression and associated anger and substance abuse problems (see Mrazek & Haggerty, 1994, for a review). The universal prevention programs outlined in this section include those that incorporate rigorous research methodologies and evaluations, such as randomized, controlled design or quasi-experimental design. Because many of the programs target different age groups, they are discussed and categorized according to the predominant developmental age group targeted: elementary or middle school and adolescent.

Elementary School Universal Preventive Interventions

Second Step program. The primary goal of the Second Step program is to prevent impulsive and aggressive behavior by teaching social competence and thus increasing prosocial behavior. Second Step targets the skill areas of anger management, empathy, and impulse control. Exercises that encourage generalization are built into each session (Grossman et al., 1997). Outcome research for the elementary school program has indicated increased knowledge and improved skills in anger management, impulse control, empathy, social problem solving, and conflict resolution. Comparisons of intervention versus control schools indicated that the schools did not significantly differ on parent and teacher ratings of child behavior. However, behavioral observations did show a decrease in physical aggression immediately following the universal intervention and at a 6-month follow-up. In addition, increases in prosocial behavior were noted through behavioral observations (Grossman et al., 1997).

Smaller scale studies that compared one intervention school and one control school found significant increases in teacher-rated social competence and decreases in teacher-rated antisocial behavior at the intervention school (Taub, 2001).

Child Development Project (CDP). The CDP's main objective is to increase children's respect and responsibility within the auspice of creating a caring school community (Lewis, Watson, & Schaps, 2003). Some of the components include cooperative learning in which students are encouraged to work together (not compete), nonpunitive discipline, reading activities, cross-grade "buddies" activities in which older and younger students work in pairs to complete activities, parental activities for home use, and community-building activities that involve all of the students, parents, teachers, and staff working together within a school (Berryhill & Prinz, 2003; Lewis et al., 2003). Overall, the results indicate that students in schools that had a high fidelity of curriculum implementation had increases in personal, social, and ethical values and attitudes compared with control schools and schools that did not implement the curriculum with a high degree of fidelity (Solomon, Battistich, Watson, Schaps, & Lewis, 2000). Three- and 4-year follow-ups of schools with a high degree of program fidelity had reductions in many measures of substance use and delinquency compared with control schools (Berryhill & Prinz, 2003; Solomon et al., 2000).

Good Behavior Game. The Good Behavior Game was created by Barrish, Saunders, and Wolf (1969). The prevention focuses on increasing children's acceptance of authority and rules within the school classroom. The Good Behavior Game is a type of behavioral technique that is taught to children instead of a standard curriculum-based prevention (Barrish et al., 1969; Embry, 2002). Children in the classroom are divided into teams and a scoreboard keeps track of which teams have accrued the fewest "fouls" (i.e., a rule that is broken). Rewards are given to the team with the fewest fouls, and smaller rewards are given to teams that earned a number of fouls below an established threshold (Embry, 2002). In several studies comparing the effects of the game and another intervention designed to increase family and school communication and partnership, the Good Behavior Game yielded the strongest results for the reduction of aggressive behavior, poor achievement, and shy behaviors (e.g., Embry, 2002).

Linking the Interests of Families & Teachers (LIFT). LIFT targets students and parents within an elementary school. Parents receive behavior management training, and are encouraged to initiate more communication with teachers with the use of a phone and answering machine installed in each intervention classroom (Reid & Eddy, 2002). Child participants are taught social and problem-solving skills and receive a recess behavior management program that uses an adaptation of the Good Behavior Game (Reid & Eddy, 2002). A review of the long-term effects of LIFT indicated that the frequency of police arrest and alcohol use during the middle school years was less likely for participants receiving the preventive intervention in elementary school than for participants in the control condition. However, differences were not found between the two groups in terms of the frequency and onset of using other substances such as tobacco or marijuana (Eddy, Reid, Stoolmiller, & Fetrow, 2003; Reid & Eddy, 2002).

Seattle Social Development Project (SSDP). The SSDP is a universal prevention designed to reduce aggression by creating a positive school environment. The prevention has been used predominantly for public elementary schools serving high-crime areas of Seattle, Washington. The SSDP includes training for teachers to increase the use of nonpunitive classroom behavior management such as positive reinforcement, and more recent versions of the intervention have also included parent training and child problem solving and social skills training (Berryhill & Prinz, 2003; Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). Longitudinal research conducted with the SSDP found significant prevention or reductions of alcohol use (Hawkins et al., 1999), reductions in delinquency, a lower frequency of sexual intercourse and number of sexual partners, and decreased reports of becoming pregnant or causing pregnancy (Hawkins et al., 1999). In addition, students receiving the prevention reported more positive feelings and commitment to school compared with control groups, improved academic achievement, and less student-reported school misbehavior (Hawkins et al., 1999).

Promoting Alternative Thinking Strategies (PATHS). Greenberg, Domitrovich, and Bumbarger developed the PATHS universal preventive intervention, which teaches children three steps for calming down: stop, take a deep breath, and identify the

problem and your feelings (Kusche & Greenberg, 1994). Parent and teacher components are also included to enhance the skills child participants learn (Greenberg et al., 2001). Overall, results at 1- and 2-year follow-ups have indicated that children receiving the PATHS intervention were better at understanding emotions, were better at problem solving, and reported decreases in conduct problems and impulsivity compared with children in a control group (Greenberg et al., 2001).

Fast Track Program. The Fast Track program is a multisite intervention with a universal prevention program that uses a PATHS component (Kusche & Greenberg, 1994) and addresses child, family, school, and community levels in one intervention (Conduct Problems Prevention Research Group, 1992, 1999). For elementary school children, the intervention emphasizes understanding and communicating emotions, learning self-control, and learning problem solving (Conduct Problems Prevention Research Group, 1992). Intervention starts in first grade and continues through tenth grade. The outcome effects of Fast Track indicate significant effects on peer ratings of aggression, disruptive behavior, and classroom atmosphere. In addition, at the end of first grade, moderate positive social effects were reported on children's social, emotional, and academic skills (Conduct Problems Prevention Research Group, 1999). Many of those effects have been maintained in assessments at the end of third grade (Conduct Problems Prevention Research Group, 2002) and up to the end of elementary school, through fourth and fifth grades (Conduct Problems Prevention Research Group, 2004).

Bullying Prevention Program. The Bullying Prevention Program was a nationwide universal preventive intervention conducted in Norway. The program's objectives include reducing the acceptance of bullying among children and school staff and improving school supervision and deterrence of bullying. The program instills awareness through booklets, suggestions for preventing bullying, initiation of classroom meetings, and videos (Berryhill & Prinz, 2003). Results from the 42 elementary and middle schools in Norway showed at least a 50% decrease in bullying and decreased reports of delinquency, including vandalism, fighting, intoxication, theft, and truancy. The results indicated even greater positive effects at a 2-year follow-up than at the 1-year follow-up (Greenberg et al., 2001).

Middle School/Adolescent Universal Preventive Interventions

Responding in Peaceful & Positive Ways (RIPP). RIPP interventionists teach middle school adolescents problem-solving steps, better communication skills, and achievement techniques to promote nonviolence. Teens are encouraged to internalize these skills through repetition and mental rehearsal of problem-solving steps, experiential learning, and didactic teaching (Farrell, Meyer, & White, 2001). Results show that teens in the RIPP intervention had decreased incidence of school punishment for engaging in violent acts, including fewer suspensions, compared with teens in control groups. As for gender differences, boys maintained fewer suspensions compared with the control group 1 year later, whereas girls' suspensions compared with controls were not significantly different after 1 year. Adolescents in the RIPP program also indicated that they used peer mediation more frequently than controls did. Overall, students who had the highest rates of disruptive behaviors prior to receiving the prevention achieved the greatest benefit from RIPP (Farrell, Meyer, Sullivan, & Kung, 2003; Farrell et al., 2001).

Positive Youth Development (PYD). PYD is a universal preventive intervention created to increase adolescents' personal and social competence. Sessions specifically cover topics such as stress management, self-esteem, problem solving, substance use and health information, assertiveness, and social networks (Caplan, Weissberg, Grober, & Sivo, 1992). Studies comparing PYD with control groups found that teens receiving the intervention improved in terms of ability to positively solve conflicts, impulse control, and popularity according to teacher ratings. Teens in the PYD groups also reported increases in the use of problem solving and decreases in the intent to use substances and alcohol (Caplan et al., 1992; Greenberg et al., 2003).

The School Transitional Environment Project (STEP). STEP targets adolescents' adaptation skills during transitional stages, such as the transition from elementary to middle school and the transition from middle school to high school. One of the main components of STEP is reorganizing the school social system, including creating smaller class sizes and maintaining a consistent set of peers. STEP also restructures the homeroom teacher's role by encouraging the teacher to be the main communicator between parents and the school and by increasing overall teacher support (Ferner et al.,

2001). Long-term follow-up of middle school and high school students receiving STEP indicates a 50% reduction in dropout rates and significant increases in school achievement and attendance (Felner et al., 1993). In particular, when fidelity to treatment methods are high, STEP has been found to incite a "whole school" change in which social-emotional, behavioral, and academic difficulties; developmental competency; and adaptation are all significantly improved compared with control groups (Felner et al., 1993; Felner et al., 2001).

ALTERNATIVE ACTIONS FOR INTERVENTION

Several intervention or prevention programs have been developed to help reduce anger problems and aggressive behavior in children (see Table 1). These programs have been presented in school settings as indicated prevention programs for high risk aggressive children (Mrazek & Haggerty, 1994) or as treatment programs for children with diagnosable disruptive disorders. As can be noted in Table 1, common elements in these effective programs include teaching skills to manage the affective arousal associated with anger, instruction on social problem solving skills, and development of social skills. Some programs have multiple components and include both parent and child interventions. The various intervention programs will be reviewed in turn.

The Anger Coping and Coping Power Programs

The Anger Coping Program is a structured 18-session group intervention for aggressive children that has been refined over a period of 20 years. The program evolved from an earlier 12-session Anger Control Program. The Anger Coping Program has been used in school settings for prevention and early intervention purposes and in specialty programs for children with oppositional defiant disorder and conduct disorder in outpatient mental health clinics. Sessions typically last 45 to 60 minutes in school-based groups. Sessions are moderately structured, with specific goals, objectives, and planned exercises for each session. The model was designed for use with elementary school and middle school children and has been used primarily with children in the fourth to sixth grades. The groups typically have four to six children.

A detailed session-by-session outline of the Anger Coping Program can be found in Larson and Lochman (2002). The goals for the program's group sessions include introduction and establishment of the group rules and reinforcement systems, goal setting, anger management training, perspective-taking, awareness of physiological arousal and anger, and social problem solving. The two overarching goals for this cognitive-behavioral program are, first, to help children find ways to cope with the intense surge of physiological arousal and anger they experience immediately after a provocation or frustration, and, second, to help children retrieve from memory an array of possible strategies to resolve the problem or conflict they are experiencing.

The program's anger management training teaches children to recognize the triggers that lead to their high arousal reactions in difficult interpersonal situations. The training then assists them in using several coping techniques to manage the arousal and to avoid an impulsive, rage-filled response. The coping techniques include distraction, relaxation, and self-talk. In the social problem-solving sessions, children brainstorm multiple possible solutions to social problems and then evaluate the long-term and short-term consequences of each solution. Role-playing and videotaping are used to reinforce the problem-solving process.

Outcome research indicates that program participants displayed less disruptive-aggressive behavior, more time on-task in the classroom, lower levels of parent-rated aggression, higher self-esteem or perceived social competence, and a trend toward a reduction in teacher-rated aggression. These findings were noted using pre-post assessments as well as comparisons between program participants and control groups. Examination of the longer-term preventive effects of the program indicated that gains and preventive effects were maintained but has also found that some other behavioral gains were not maintained (Lochman, 1992). Compared with untreated controls and nonaggressive boys, program participants had higher levels of self-esteem; lower rates of irrelevant solutions to problems on a problem-solving measure; and lower rates of alcohol, marijuana, and other drug use at a follow-up period 3 years after the intervention. On the follow-up measures, the program participants were functioning in a range comparable to the nonaggressive boys, indicating a prevention effect for substance use and a relative normalization of self-esteem and social problem-solving skills.

The Coping Power Program (Lochman & Wells, 2002a) is a lengthier, multicomponent version of the

Table 1 *Alternate Actions for Intervention*

Program	Age Range	Program Length	Components	Skill Areas	Program Effects Relative to Control Group	Effects at Follow-Up
Anger Coping (Lochman, 1992)	Children in fourth to sixth grade	18 sessions	Child only	Goal setting; anger management; perspective-taking; awareness of physiological arousal and anger; social problem solving	Decreased disruptive-aggressive behavior; more time on-task in the classroom; lower levels of parent-rated aggression; higher self-esteem or perceived self-competence; reduction in teacher-rated aggression (trend)	Higher levels of self-esteem; lower rates of irrelevant solutions to problems on a problem-solving measure; lower rates of substance use
Coping Power (Lochman & Wells, 2002a)	Children in fourth to sixth grade	33 child sessions and 16 parent sessions over 15–18 months	Parent and child	Emotional awareness; relaxation training; social skills enhancement; positive social and personal goals; dealing with peer pressure	Improvements in children's social information processing and locus of control; improvements in parenting practices	Significant reductions in risk for self-reported delinquency, parent-reported substance use, and teacher-reported behavior problems
The Art of Self-Control (Feindler & Ecton, 1986)	13- to 17-year-old adolescents	12 sessions	Child only	Relaxation; self-instruction; coping statements; assertiveness; self-monitoring of anger and conflictual situations; problem solving	Reductions in aggressive and disruptive behavior; improvements in problem-solving abilities, social skills, cognitive reflectivity, and adult-rated impulsivity and self-control	Not available
Dinosaur School (Webster-Stratton & Hammond, 1997)	4- to 7-year-old children	6 months	Parent and child	Social skills; empathy; perspective-taking, conflict resolution; dealing with loneliness, stress, and anger	Reduction in conduct problems reported in the home; increases in social problem-solving skills	Parent ratings of behavioral problems in the normal rather than the clinically significant range (75% of children)

(Continued)

Table 1 *Continued*

Program	Age Range	Program Length	Components	Skill Areas	Program Effects Relative to Control Group	Effects at Follow-Up
Montreal Delinquency Prevention Program (Tremblay, Masse, Pagani, & Vitaro, 1996)	Early elementary school age	2 years	Parent and child	Social skills and self-control training	Decreased risk of serious school adjustment problems; less delinquent behavior	Decreased gang involvement, lower levels of delinquency and substance use during adolescence
Problem-Solving Skills Training (Kazdin, Esveldt-Dawson, French, & Unis, 1987)	Elementary school age	20–25 child sessions; 16 parent sessions	Parent and child	Prosocial problem-solving skills	Reductions in externalizing and internalizing problems; increased social activities and school adjustment; improvements in social and behavioral functioning at school	Reductions in disruptive behavior and increases in prosocial activities at home and school

Anger Coping Program and is designed to enhance outcome effects and provide better maintenance of gains over time. The Coping Power Program added sessions to the basic Anger Coping framework to create a child component (for a total of 33 group sessions) that addresses additional substantive areas such as emotional awareness, relaxation training, social skills enhancement, positive social and personal goals, and techniques for dealing with peer pressure. The program also has a parent component that is designed to be integrated with the child component and to cover the same 15- to 18-month period. The program's 16 parent group sessions address parents' use of social reinforcement and positive attention, establishment of clear house rules, behavioral expectations and monitoring procedures, use of a range of appropriate and effective discipline strategies, family communication, positive connection to school, and stress management capability. Parents are informed of the skills their children are working on in their sessions, and parents are encouraged to facilitate and reinforce their children's use of the new skills.

Outcome analyses in randomized, controlled intervention studies indicate that the Coping Power intervention had broad effects at post-intervention on boys' social information processing and locus of control and on parents' parenting practices (Lochman & Wells, 2002a). In analyses of the 1-year follow-up effects of the program, Coping Power produced significant reductions in risks for self-reported delinquency, parent-reported substance use, and teacher-reported behavioral problems, especially for boys who received both the child and parent components (Lochman & Wells, 2004). A second effectiveness study explored whether the Coping Power Program effects could be augmented by delivering the program along with a classroom-based intervention involving teacher training. Outcome analyses with 245 aggressive children indicate that Coping Power produced significant postintervention effects on children's social competence and aggressive behavior (Lochman & Wells, 2002b). That study replicated the 1-year follow-up results from the prior study: Coping Power children had reduced levels of delinquency, substance use, and aggressive behaviors in the school setting (Lochman & Wells, 2003).

The Art of Self-Control

This cognitive-behavioral adolescent control program for groups and individuals is described in a session-by-session format in Feindler and Ecton (1986). The

group program consists of 12 sessions lasting from 45 to 90 minutes once weekly in outpatient settings and twice weekly in residential treatment settings. The groups typically consist of 8 to 12 members, and the leaders may come from a variety of settings (e.g., child care workers, counselors, nurses, probation officers, psychiatrists, psychologists, social workers, teachers, or even involved parents). This program to teach the art of self-control provides training in relaxation, self-instruction, the use of coping statements, assertiveness, self-monitoring of anger and conflictual situations, and problem solving. It uses stress inoculation training (SIT) based on Meichenbaum and Goodman's (1971) and Novaco's (1975) intervention program. SIT particularly emphasizes the cognitive components of anger and encourages adolescents to moderate, regulate, and prevent out-of-control anger and to use problem-solving skills in response to conflictual situations. In this program, the SIT approach involves an educational-cognitive preparation phase, a skill acquisition phase (consisting of a cognitive component and a behavioral skills training component), and a skill application phase. In the first phase, participants are taught to recognize their personal anger patterns (including cognitive, physiological, and behavioral components) and their situational antecedents, or triggers, that lead to their out-of-control anger. Leaders then encourage adolescents to use these cues to "chill out" and to substitute cognitive-behavioral anger control techniques.

In the skill acquisition phase, participants are taught cognitive-behavioral techniques to use in anger-provoking situations. Feindler and Ecton (1986) use the mnemonic "C-A-L-M-D-O-W-N" to indicate the different cognitive and behavioral skills to be learned: (a) *Cue* for anger provocation, (b) *Alter* views of anger provocation, (c) *Let* adolescents use self-instructions to help with anger control, (d) *Moderate* physiological anger arousal by providing skills in relaxation, (e) *Direct* adolescents to communicate anger verbally and nonverbally by providing them with training in assertiveness, (f) *Organize* the manner in which anger-related problems are solved by teaching problem-solving skills, (g) *Work* through the proper timing sequences and conditions that will enhance the effectiveness of the skills learned (using modeling and behavioral rehearsal formats), and (h) *Negotiate* a contract to use the skills learned (to promote generalization to other settings).

In the skill application phase, participants are taught to use the skills in the acquisition phase by

exposing them to graduated anger-provoking situations through role-playing and real-life situations. Videotapes and written homework are used to assist with this process. The three phases of this program occur simultaneously, rather than successively as they are described here.

As summarized in Feindler and Ecton (1986), outcome research for this program indicated reductions in aggressive and disruptive behavior and improvements in problem-solving abilities, social skills, cognitive reflectivity, and adult-rated impulsivity and self-control. The improvements were noted from pre-post comparisons as well as when comparisons were made between program participants and a control group. The populations examined consisted of adolescents who had experienced fairly extreme or chronic histories of aggression (e.g., adolescents at an in-school junior high school program for youth suspended multiple times and delinquent youth and for adolescents at an inpatient psychiatric facility).

This self-control training program also has been adapted for use primarily with incarcerated adolescents. This adaptation, called Anger Control Training, is part of a larger program (i.e., Aggression Replacement Training) aimed to help reduce adolescent aggression. A detailed description of this program (in a session-by-session format) can be found in Goldstein and Glick (1994).

Dinosaur School—Child Training

This program was initially developed as part of a larger preventive intervention designed to examine the relative and additive effectiveness of parent training and child training for 4- to 7-year-olds with early-onset conduct problems (Webster-Stratton & Hammond, 1997). The child component, which was referred to as Dinosaur School, addresses issues that young children with conduct problems frequently face: social skills problems, an inability to emotionally empathize or engage in perspective-taking, effective conflict resolution, and feelings of loneliness, stress, and anger. The parenting component consisted of videotaped programs on parenting and interpersonal skills that have proved to be effective in reducing noncompliant behaviors (Webster-Stratton, 1990). Analysis of treatment groups revealed that the child training led to a significant reduction in conduct problems reported in the home and increases in social problem-solving skills in comparison to controls. Moreover, at 1-year follow-up

nearly two-thirds of children in the child treatment group had parent ratings of behavioral problems in the normal rather than clinically significant range. Although the combination of child and parent training proved superior to each of the component pieces, this finding indicates that cognitive-behavioral treatments directed at young children can be effective in reducing disruptive behavior problems and could potentially be used when parents are unwilling or unable to participate in treatment.

The Montreal Delinquency Prevention Program

This intervention took place over 2 years and consisted of a parent-training component based on the strategy developed by the Oregon Social Learning Center (Patterson, 1982) and a child component consisting of social skills and self-control trainings that took place in the second and third grades (Tremblay, Masse, Pagani, & Vitaro, 1996). Investigations have revealed that by age 12, boys who received the intervention were less likely than untreated boys to have serious adjustment problems in school (Tremblay et al., 1992) or to have antisocial friends (Vitaro & Tremblay, 1994), and they reported fewer instances of trespassing and stealing (McCord, Tremblay, Vitaro, & Desmarais-Gervais, 1994). Moreover, during adolescence individuals who received the treatment were less likely to be involved in gangs (Tremblay et al., 1996) and reported lower levels of delinquency and substance use (Tremblay, Kurtz, Masse, Vitaro, & Pihl, 1995) than the untreated controls. Since many of those treatment effects emerged at age 12 and remained stable up until the age of 15, the results of this preventive intervention provide substantial evidence that early cognitive-behavioral interventions during the elementary school years can produce effects that last throughout adolescence. It should be noted that these effects are for the parent and child training combined, making it difficult to interpret the unique effect that the child-centered cognitive-behavioral component had on treatment gains.

Problem-Solving Skills Training

Problem-solving skills training (PSST) is probably one of the most extensively researched cognitive-behavioral treatments for antisocial behavior in childhood. The program itself focuses on teaching and reinforcing prosocial problem-solving skills among

children with disruptive behavior disorders to promote their ability to effectively manage potentially volatile interpersonal situations. Research examining PSST has indicated that it is superior to nondirective relationship therapy and control conditions in reducing global measures of externalizing and internalizing problems, including aggression, and increasing social activities and overall school adjustment among psychiatric inpatient children (Kazdin, Esveldt-Dawson, French, & Unis, 1987). A subsequent study also revealed that the addition of an in vivo practice component to PSST can help improve children's social and behavioral functioning at school. However, that effect was found only at post-treatment, not at 1-year follow-up. Despite this finding, both the original and the modified training were more effective in reducing disruptive behaviors and increasing prosocial activities both at home and at school in comparison to nondirective behavior therapy, and those effects remained at 1-year follow-up (Kazdin, Bass, Siegel, & Thomas, 1989). Another study indicated that PSST could be better than parent management training at increasing children's social competence at school and reducing self-reports of aggression and delinquency, although a combination of both treatments seems to be optimal (Kazdin, Siegel, & Bass, 1992). This accumulation of evidence not only suggests that PSST is an effective and long-lasting treatment for antisocial behavior in children, it also indicates that cognitive-behavioral treatments for disruptive behavior disorders may be superior to other forms of treatment.

SUMMARY

Anger and aggression are normal experiences in childhood, but when taken to excess they can lead to significant impairment in a child's functioning. Problems with anger and aggression have been associated with an array of factors, including emotional arousability, social information processing, and contextual influences. Understanding how these different factors may precipitate and maintain problems with anger and aggression has led to the development of prevention and intervention programs. Prevention programs are particularly promising in that they can be distributed widely and have the potential to prevent a broad range of problems and symptoms. Prevention programs are available for delivery at both the elementary and

middle school level, and this chapter presents summaries on several empirically tested programs at each level. Intervention programs for children who display high-risk aggressive behaviors or who have diagnosable disruptive disorders are also reviewed in this chapter. The target groups of the programs vary, from very young children displaying early-onset conduct problems to adolescents who are incarcerated or hospitalized in an inpatient psychiatric facility. Topics addressed in these programs include anger management training, social skills development, and instruction in social problem solving. Each program's curriculum covers one or more of these areas. In addition, several programs contain a parenting component. The programs reviewed are supported by outcome research, some of which indicates reductions in disruptive behavior problems that are maintained a year or more after treatment has ended.

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RECOMMENDED RESOURCES

Books

Larson, J., & Lochman, J. E. (2002). *Helping schoolchildren cope with anger: A cognitive behavioral intervention*. New York: Guilford Press.

This volume is designed to be a practical resource for school-based professionals, including counselors, psychologists, social workers, and special education consultants, in their work with aggressive children. The authors provide a full manual of the empirically validated Anger Coping Program, along with up-to-date information on childhood aggression, the principles underlying the program, and supporting evidence of the program's effectiveness.

Kazdin, A. E., & Weisz, J. R. (2003). *Evidence-based psychotherapies for children and adolescents*. New York: Guilford Press.

In this book, leading experts review current interventions for a range of childhood problems, including conduct problems, ADHD, autism, and severe emotional disturbance. Chapters provide detailed descriptions of therapeutic interventions, highlighting evidence for treatment effects and presenting strengths and weaknesses of the various programs.

Lochman, J. E., Wells, K. C., & Murray, M. The Coping Power Program: Preventive intervention at the middle school transition. In P. Tolan, J. Szapocznik, & S. Sambrano (Eds.), *Preventing substance abuse: 3 to 14*. Washington, DC: American Psychological Association (in press). This article provides detailed information on the Coping Power Program, including an explanation of the model on which the program is based and session-by-session descriptions of the parent and child interventions. A case example is provided that highlights relevant implementation issues. The authors also review research findings that lend support for the program's efficacy and effectiveness.

Reinecke, M., & Clark, D. (2003). *Cognitive therapy across the lifespan: Evidence and practice*. Cambridge, England: Cambridge University Press.

This volume presents a critical review of cognitive and cognitive-behavioral approaches in the conceptualization and treatment of clinical problems. Several chapters focus specifically on childhood problems, including disruptive behavior, anxiety, depression, and ADHD. The theoretical models underlying therapeutic interventions are presented, along with research on relevant treatment outcomes, which allows readers to make informed decisions in selecting a course of treatment.

Websites

<http://www.actagainstviolence.org>

ACT—Adults and Children Together Against Violence—is designed to prevent violence in young children 0 to 8 years of age by providing information and training to the individuals involved in their care. This website includes information on early violence prevention and child development, as well as user-friendly handouts on topics such as anger

management in children and ways to minimize classroom behavior problems. The website also provides articles in Spanish.

<http://www.excellence-earlychildhood.ca>

The website of the Centre of Excellence for Early Childhood Development provides information on the social and emotional development of young children 0 to 5 years of age. The site includes an encyclopedia of information on various topics related to child development, including aggression, prevention of maltreatment, and peer relations.

<http://www.clinicalchildpsychology.org>

Included in the website of the Society of Clinical Child and Adolescent Psychology (Division 53 of the American Psychological Association) is an evidence-based treatment site that covers conduct and oppositional problems, anxiety disorders, depression and dysthymia, and ADHD. For each disorder, the website presents descriptions of various treatment options that have been rated as well established or probably efficacious. In addition, the site provides a helpful list of high-quality references for each of the disorders covered.

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